



ATC MIDDLE EAST FZCO



 rafeed<sup>®</sup> LED  
E series

2022

OUR BEAUTIFUL WORLD WITH  
**LIGHTS.**

Report No.: TH-1064A

Test Time: 2020/4/16 15:50

## Luminaire Property

Luminaire Manufacturer: ATC  
 Luminaire Description: 10W-6000K  
 Luminous Width (mm): -80  
 Current: 0.092 A  
 Power Factor: 0.495

Luminous Length (mm): -80  
 Voltage: 220.1 V  
 Power: 10.03 W

## Photometric Results

CIE Class: Direct  
 Measurement Flux: 954.9 lm  
 Downward Ratio: 99%  
 Horizontal Diffuse Angle(50%): H73.5  
 Vertical Diffuse Angle(50%): V73.6  
 Luminaire Efficacy Rating (LER): 95.25  
 Max. Intensity: 666.23 cd  
 S/MH(C0/C180): 1.01

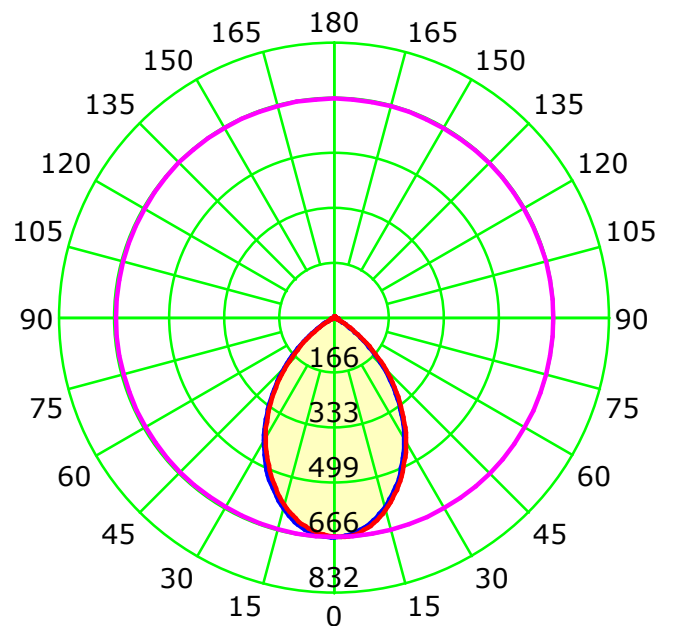
Total Rated Lamp Lumens: 954.9 lm  
 Efficiency: 100%  
 Upward Ratio: 1%

Central Intensity: 664.64 cd  
 Pos of Max. Intensity: H45 V1  
 S/MH(C90/C270): 1.01

Picture Of Luminaire



Luminous Intensity Distribution Curve



Unit: cd

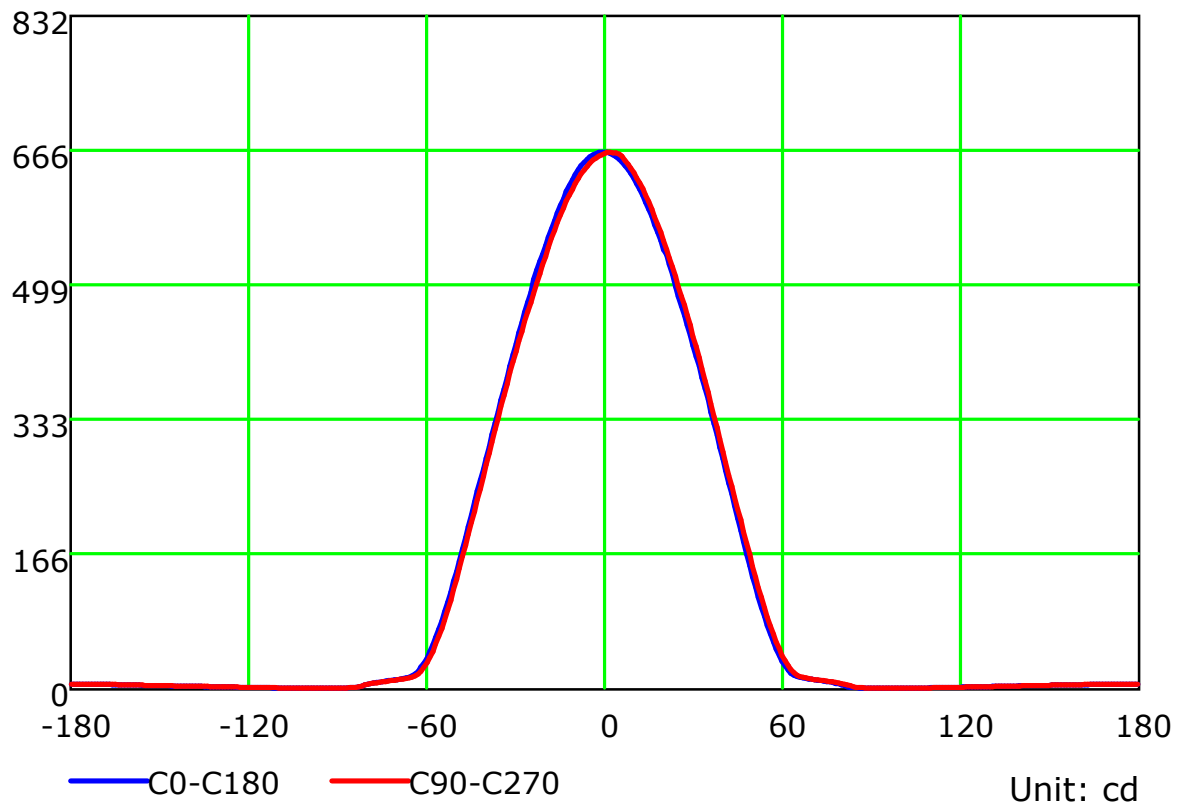
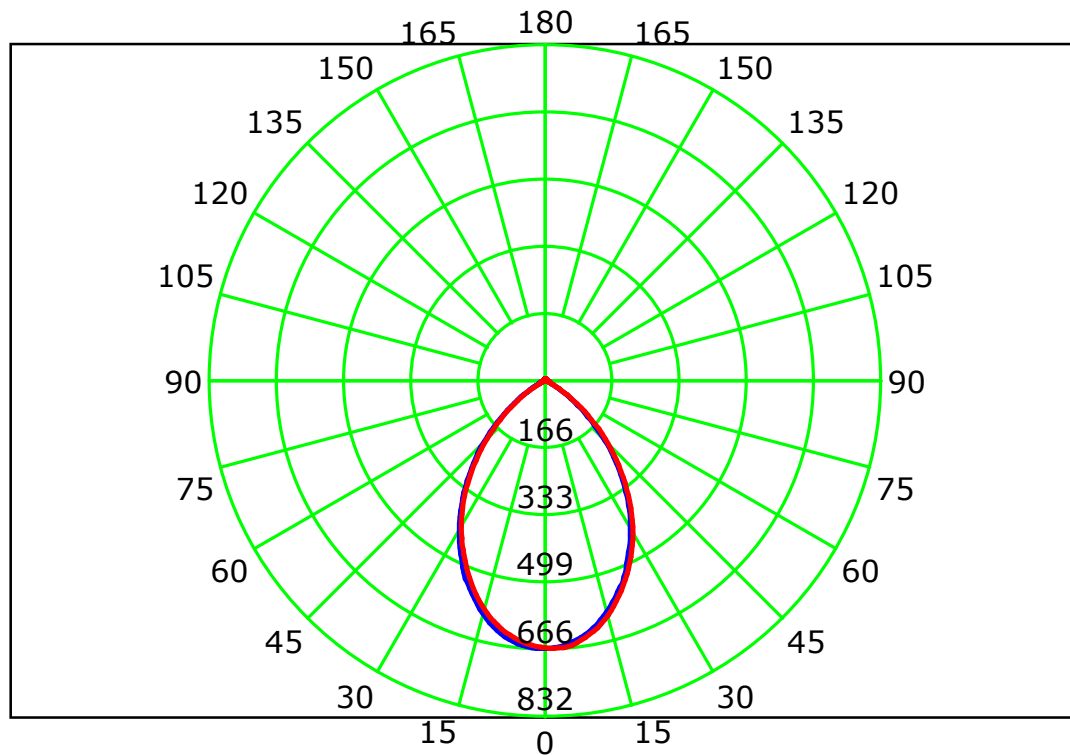
Average Diffuse Angle(50%): 73.5°

— C0-C180 — C90-C270 — G1

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Luminous Intensity Distribution Curve



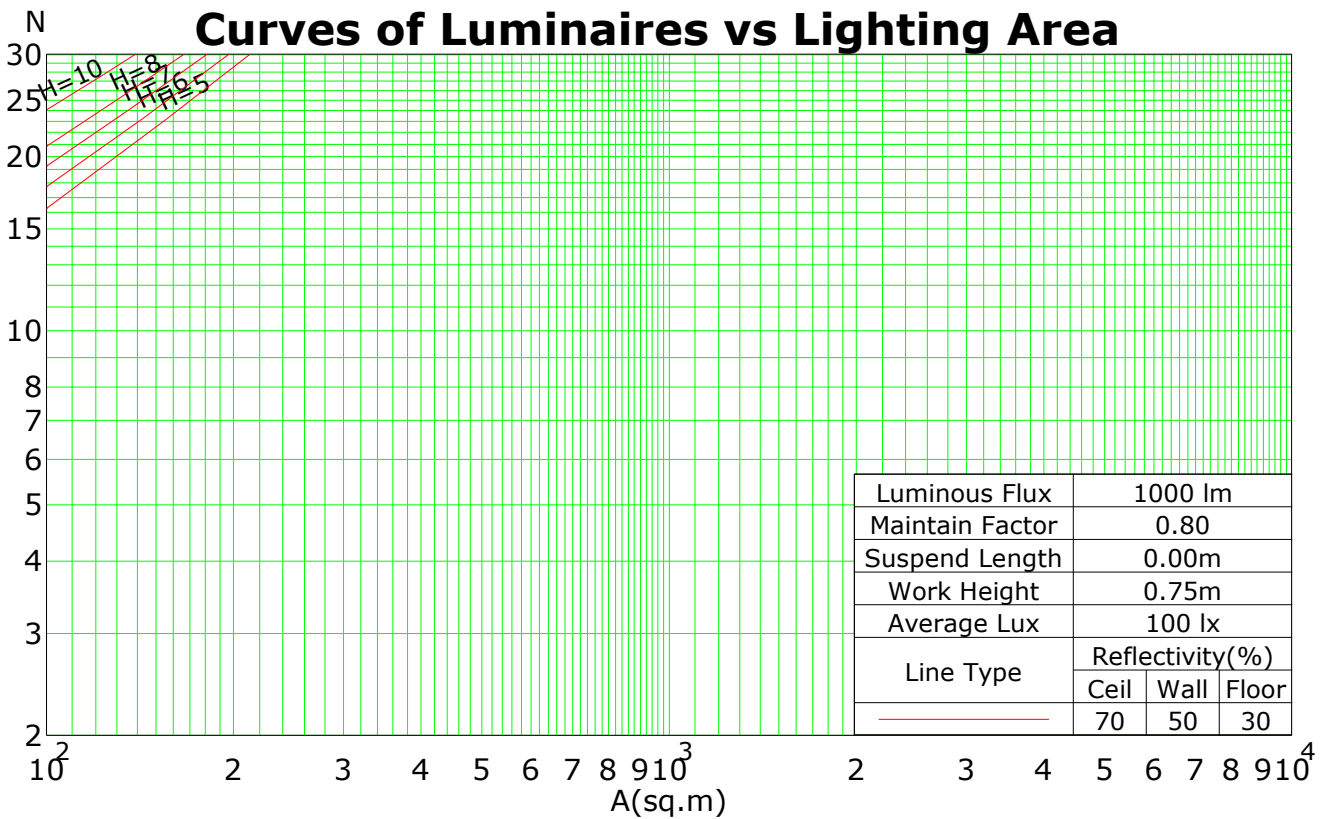
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## Coefficients Of Utilization - Zonal Cavity Method

RC	0.8	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.1	0.1	0.1	0
RW	0.7	0.5	0.3	0.1	0.7	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0.5	0.3	0.1	0
RCR	RF = 0.2																	
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101	99
1	112	108	105	103	109	106	103	101	102	100	98	98	96	95	94	93	92	90
2	105	99	94	90	102	97	92	89	93	90	86	90	87	84	87	85	82	80
3	98	90	84	79	96	88	83	78	85	81	77	83	79	75	80	77	74	72
4	91	82	75	70	89	81	75	70	78	73	69	76	72	68	74	70	67	65
5	86	75	68	63	84	74	68	63	72	66	62	70	65	61	69	64	61	59
6	80	69	62	57	78	68	62	57	67	61	56	65	60	56	64	59	55	53
7	75	64	57	52	74	63	56	52	62	56	51	60	55	51	59	54	50	49
8	71	59	52	47	69	59	52	47	57	51	47	56	51	47	55	50	46	45
9	67	55	48	43	65	55	48	43	53	47	43	52	47	43	51	46	43	41
10	63	51	45	40	62	51	44	40	50	44	40	49	44	40	48	43	39	38

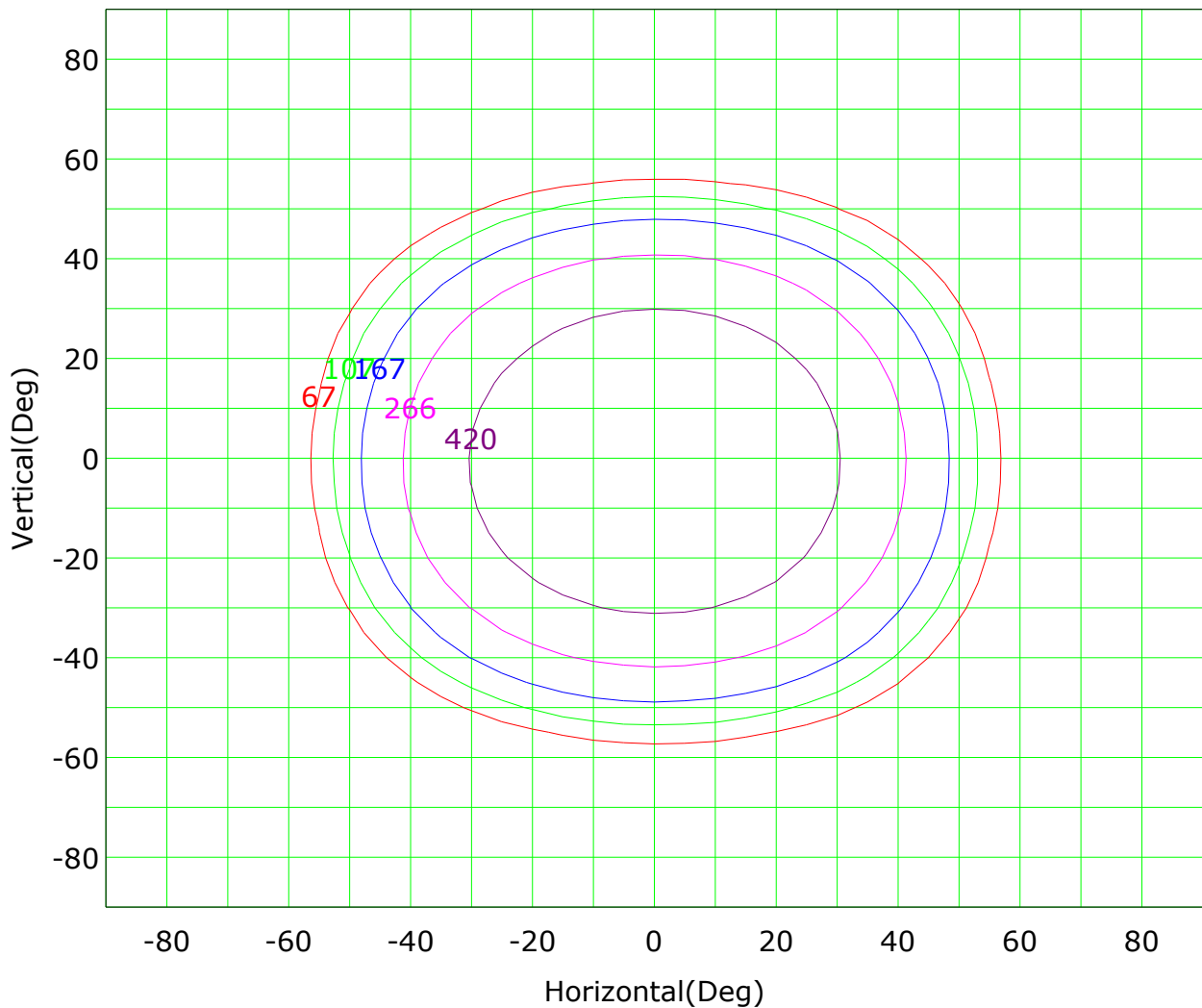
Spacing Criteria (0-180): 1.01  
 Spacing Criteria (90-270): 1.01  
 Spacing Criteria (Diagonal): 1.07



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## Isocandela (rectangle)



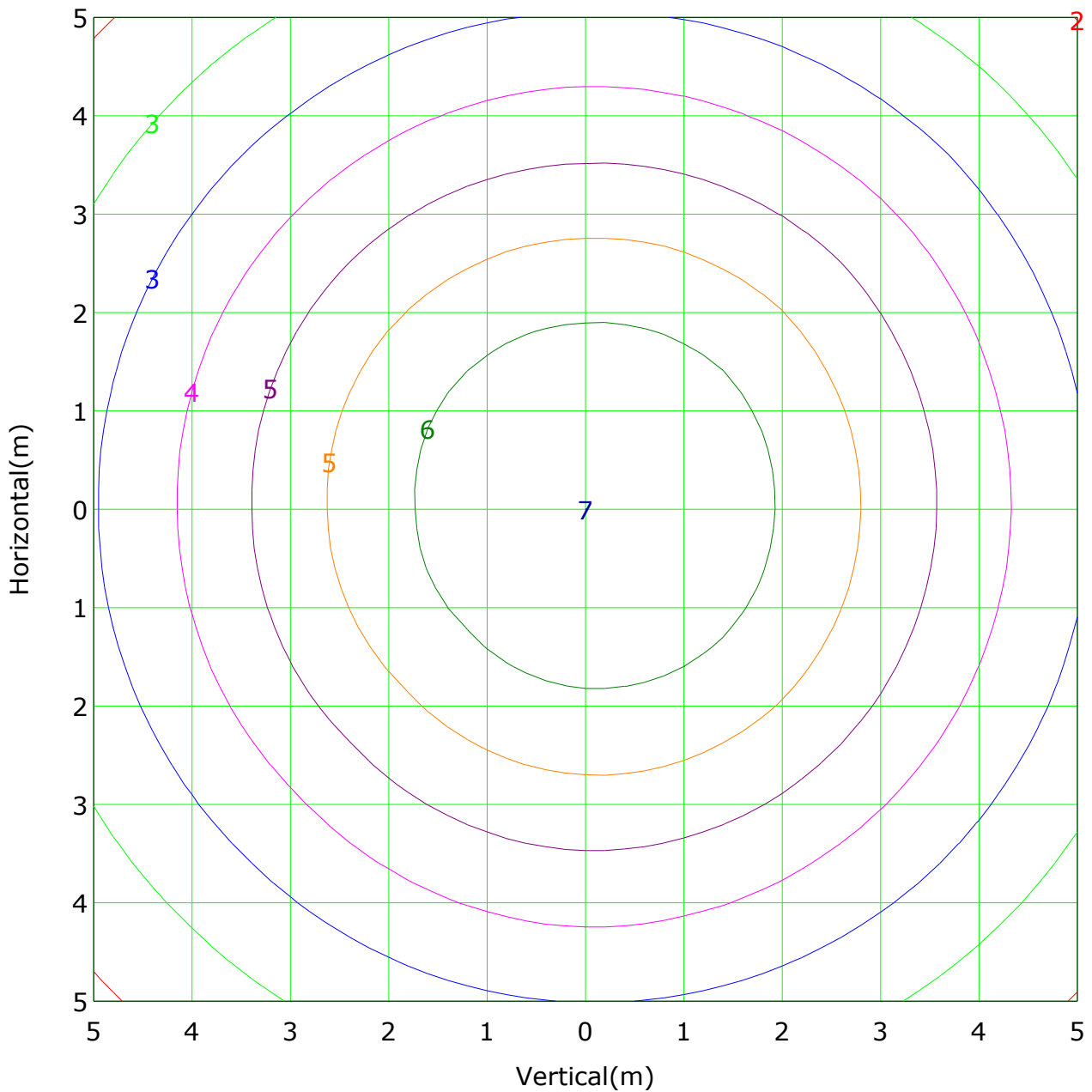
Imax (100%): 666 cd

— ( 10%): 67 cd	— ( 16%): 107 cd
— ( 25%): 167 cd	— ( 40%): 266 cd
— ( 63%): 420 cd	— (100%): 666 cd

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## IsoLux Plot



Mounting Height: 10.0m		Max Lux(100%): 6.7 lx	
— ( 30%): 2.0 lx		— ( 40%): 2.7 lx	
— ( 50%): 3.3 lx		— ( 60%): 4.0 lx	
— ( 70%): 4.7 lx		— ( 80%): 5.3 lx	
— ( 90%): 6.0 lx		— (100%): 6.7 lx	
— (120%): 8.0 lx		— (150%): 10.0 lx	

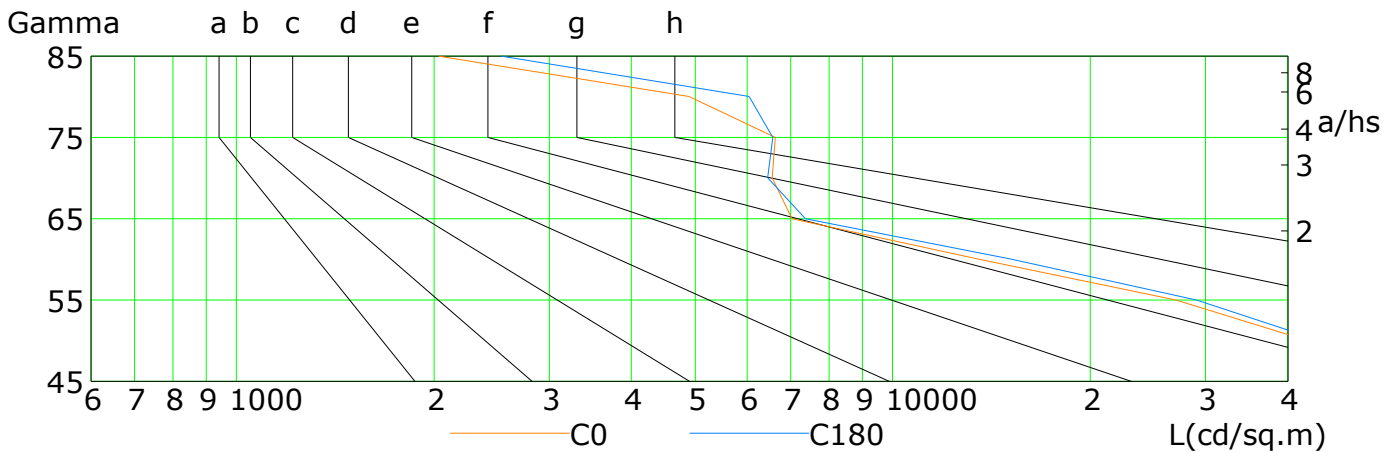
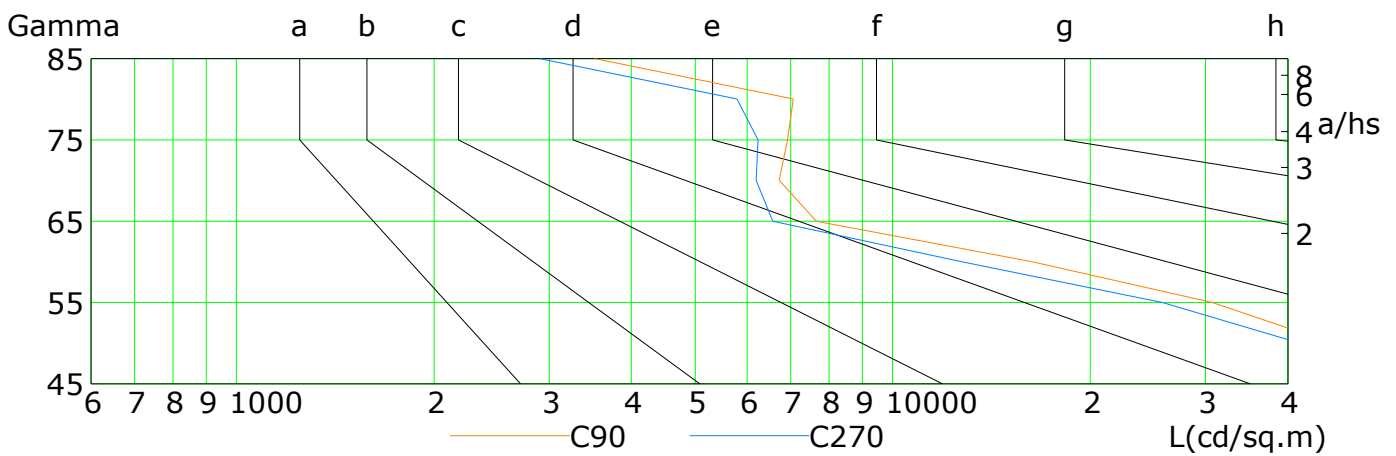
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## Lum Limit Curve

Dazzle	Quality	Illuminance (lx)							
		2000	1000	500	<=300				
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300

a b c d e f g h

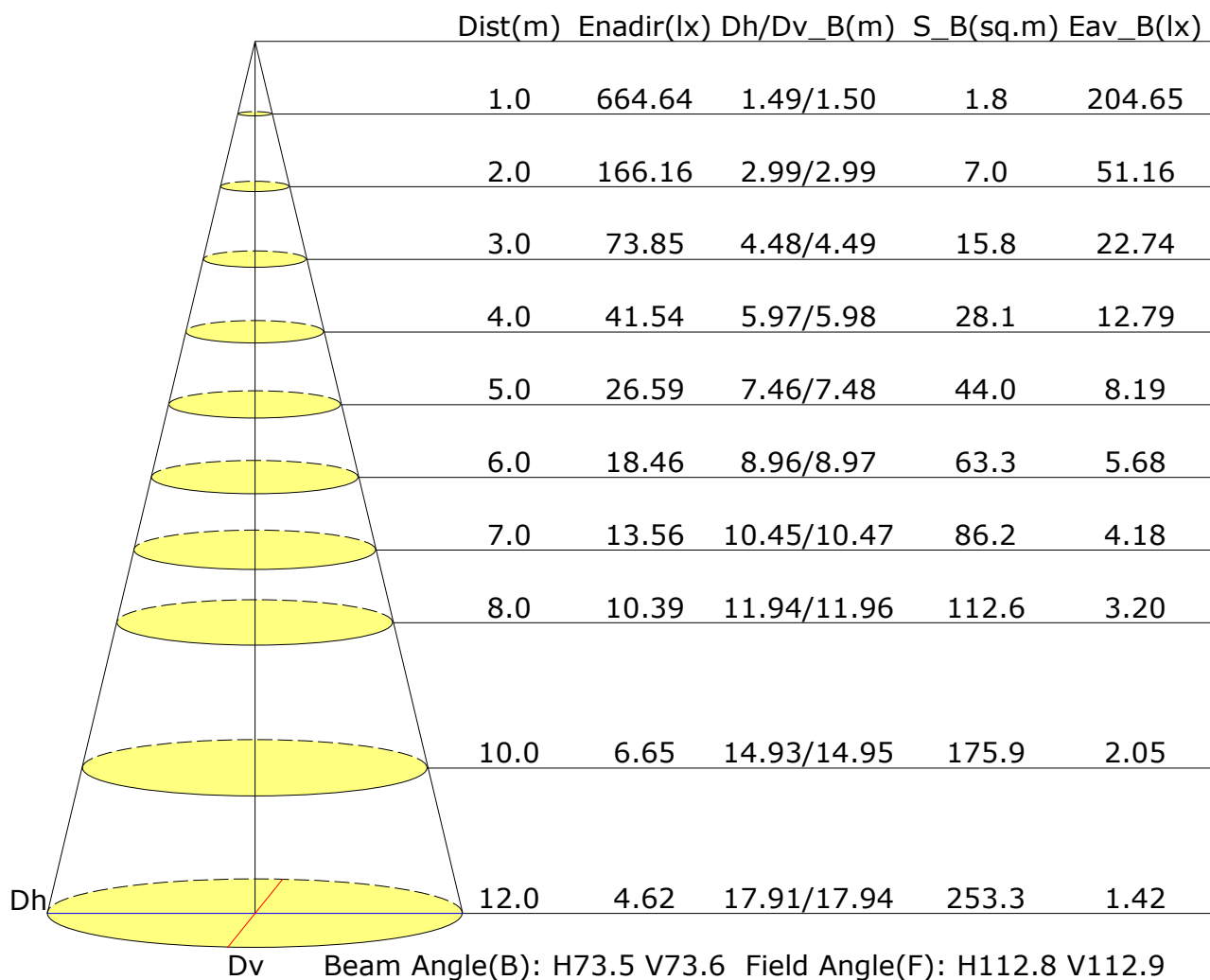


L(cd/sq.m)	G45	G50	G55	G60	G65	G70	G75	G80	G85
C0	59193	42934	27044	13512	7023	6555	6626	4892	2032
C90	62440	46732	30731	16266	7650	6712	6918	7057	3515
C180	60296	44757	29052	15148	7367	6445	6564	6038	2534
C270	57969	41903	25778	12716	6567	6195	6234	5797	2899

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## Illuminance at a Distance

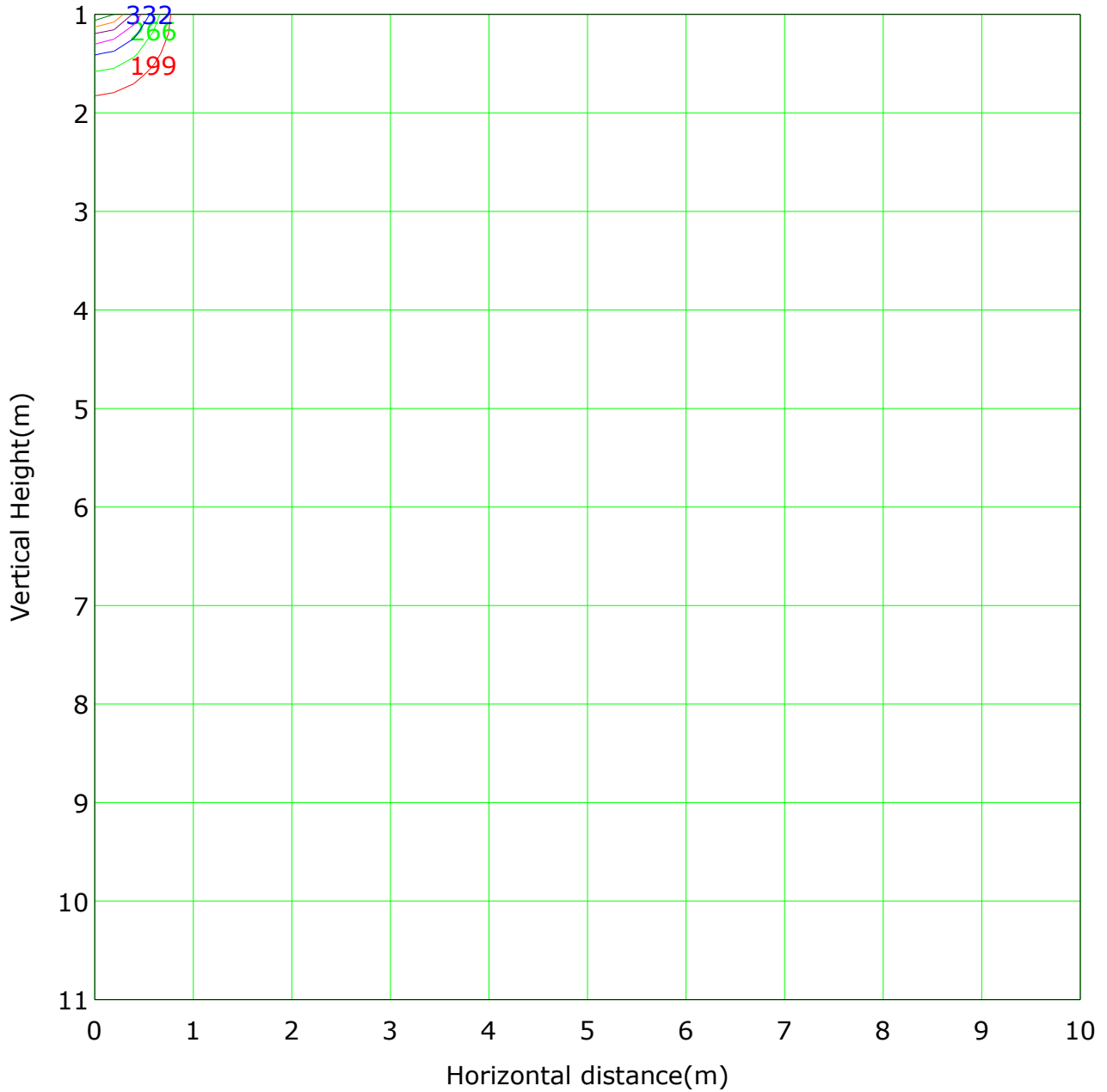


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 Humidity: 65  
 Inspector:



## Vertical IsoLux Plot



Lowest(m): 1.0m	Highest(m): 11.0m	Max Lux: 664.6 lx
— ( 30%): 199.4 lx	— ( 40%): 265.9 lx	
— ( 50%): 332.3 lx	— ( 60%): 398.8 lx	
— ( 70%): 465.2 lx	— ( 80%): 531.7 lx	
— ( 90%): 598.2 lx	— (100%): 664.6 lx	
— (120%): 797.6 lx	— (150%): 997.0 lx	

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 Humidity: 65  
 Inspector:

# Area Flux Table

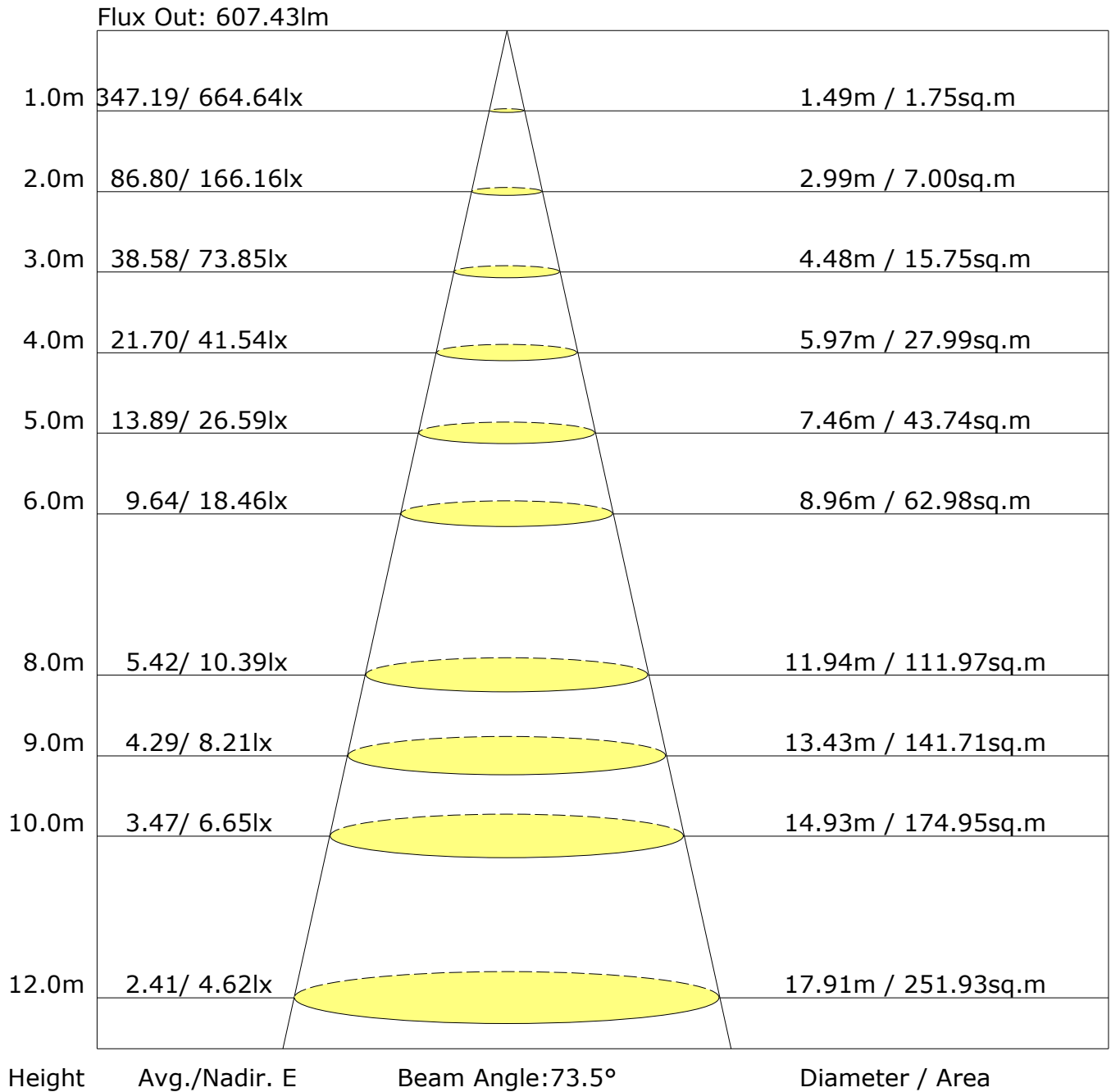
Unit: lm

		Vertical plane																				
		-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	Flux(T)	Flux(E)
Horizontal plane	-90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
	-80	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
	-70	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0
	-60	0.0	0.0	0.1	0.2	0.3	0.3	0.2	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.2	5.2
	-50	0.0	0.0	0.1	0.2	0.3	0.4	0.4	0.3	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.5	27.5
	-40	0.0	0.0	0.1	0.2	0.3	0.4	0.5	0.5	0.3	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.3	59.3
	-30	0.0	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.4	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	94.6	94.6
	-20	0.0	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.4	7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	124.7	124.7
	-10	0.0	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.4	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	141.9	141.9
	0	0.0	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.4	13.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	144.1	144.1
	10	0.0	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.4	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	141.1	141.1
	20	0.0	0.0	0.2	0.3	0.4	0.4	0.5	0.5	0.4	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	122.9	122.9
	30	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.7	92.7
	40	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.7	57.7
	50	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	26.0
	60	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
	70	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	80	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	
																				944	898	

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## The Average Illuminance Effective Figure



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## UGR Table

Reflectance:										
Ceiling (cavity)	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions	Viewed crosswise					Viewed endwise				
X=2H Y=2H	23.2	24.2	23.5	24.5	24.7	23.3	24.3	23.6	24.6	24.8
3H	23.1	24.1	23.4	24.3	24.6	23.2	24.2	23.5	24.4	24.7
4H	23.1	24.0	23.4	24.3	24.6	23.2	24.1	23.5	24.4	24.7
6H	23.1	23.9	23.4	24.2	24.5	23.2	24.0	23.5	24.3	24.6
8H	23.0	23.8	23.4	24.2	24.5	23.2	23.9	23.5	24.3	24.6
12H	23.0	23.8	23.4	24.1	24.4	23.1	23.9	23.5	24.2	24.6
X=4H Y=2H	23.1	24.0	23.4	24.3	24.6	23.2	24.1	23.5	24.3	24.6
3H	23.1	23.8	23.4	24.1	24.5	23.1	23.9	23.5	24.2	24.6
4H	23.1	23.7	23.5	24.1	24.5	23.2	23.8	23.6	24.2	24.6
6H	23.1	23.7	23.5	24.1	24.5	23.2	23.8	23.6	24.2	24.6
8H	23.1	23.6	23.5	24.0	24.4	23.2	23.7	23.6	24.1	24.6
12H	23.0	23.5	23.5	23.9	24.4	23.2	23.6	23.6	24.1	24.5
X=8H Y=4H	23.0	23.5	23.5	24.0	24.4	23.1	23.6	23.5	24.0	24.5
6H	23.1	23.5	23.5	23.9	24.4	23.2	23.6	23.6	24.0	24.5
8H	23.0	23.4	23.5	23.9	24.4	23.2	23.5	23.7	24.0	24.5
12H	23.0	23.3	23.5	23.8	24.3	23.1	23.5	23.7	24.0	24.5
X=12H Y=4H	23.0	23.5	23.4	23.9	24.4	23.1	23.5	23.5	24.0	24.4
6H	23.0	23.4	23.5	23.9	24.4	23.1	23.5	23.6	24.0	24.5
8H	23.0	23.3	23.5	23.8	24.4	23.1	23.5	23.7	24.0	24.5
Variations with the observer position at spacings:										
S=1.0H						+1.1/-2.5				
S=1.5H						+2.6/-6.1				
S=2.0H						+4.4/-7.2				

Calculate in accordance with CIE Pub.117. The table is revised with 955lm ( $8\log(F/F_0) = -0.2$ ).

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## Zonal Lumen

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
0.0-1.0	663.7	0.6	0.6	0.07	0.07
1.0-2.0	663.2	1.9	2.5	0.20	0.27
2.0-3.0	662.0	3.2	5.7	0.33	0.60
3.0-4.0	660.3	4.4	10.1	0.46	1.06
4.0-5.0	658.0	5.7	15.8	0.59	1.65
5.0-6.0	655.1	6.9	22.7	0.72	2.37
6.0-7.0	651.4	8.1	30.8	0.85	3.22
7.0-8.0	647.0	9.3	40.0	0.97	4.19
8.0-9.0	642.2	10.4	50.4	1.09	5.28
9.0-10.0	636.8	11.5	62.0	1.21	6.49
10.0-11.0	630.7	12.6	74.6	1.32	7.81
11.0-12.0	623.8	13.6	88.2	1.43	9.24
12.0-13.0	616.5	14.6	102.8	1.53	10.77
13.0-14.0	608.7	15.6	118.4	1.63	12.40
14.0-15.0	600.2	16.5	134.9	1.73	14.13
15.0-16.0	591.1	17.3	152.2	1.81	15.94
16.0-17.0	581.5	18.1	170.3	1.90	17.84
17.0-18.0	571.8	18.9	189.2	1.97	19.81
18.0-19.0	561.7	19.5	208.7	2.05	21.86
19.0-20.0	551.3	20.2	228.9	2.11	23.97
20.0-21.0	540.7	20.8	249.7	2.17	26.15
21.0-22.0	530.1	21.3	271.0	2.23	28.38
22.0-23.0	519.0	21.8	292.8	2.28	30.66
23.0-24.0	507.1	22.2	314.9	2.32	32.98
24.0-25.0	494.9	22.5	337.4	2.36	35.34
25.0-26.0	483.0	22.8	360.2	2.39	37.73
26.0-27.0	471.2	23.1	383.3	2.41	40.14
27.0-28.0	459.1	23.2	406.5	2.43	42.58
28.0-29.0	446.7	23.4	429.9	2.45	45.02
29.0-30.0	433.9	23.4	453.3	2.45	47.48
30.0-31.0	420.8	23.4	476.8	2.45	49.93
31.0-32.0	407.3	23.3	500.1	2.44	52.37
32.0-33.0	393.5	23.2	523.3	2.43	54.80
33.0-34.0	379.5	23.0	546.3	2.41	57.21
34.0-35.0	365.4	22.7	569.0	2.38	59.58
35.0-36.0	351.1	22.4	591.3	2.34	61.93

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## Zonal Lumen (Continue 1)

Gamma [°]	I <sub>mean</sub> [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
36.0-37.0	336.6	22.0	613.3	2.30	64.23
37.0-38.0	322.0	21.5	634.8	2.25	66.48
38.0-39.0	307.3	21.0	655.7	2.20	68.67
39.0-40.0	292.6	20.4	676.2	2.14	70.81
40.0-41.0	278.1	19.8	696.0	2.07	72.89
41.0-42.0	263.7	19.2	715.1	2.01	74.89
42.0-43.0	249.5	18.5	733.6	1.94	76.83
43.0-44.0	235.3	17.8	751.4	1.86	78.69
44.0-45.0	221.0	17.0	768.4	1.78	80.47
45.0-46.0	206.6	16.2	784.5	1.69	82.16
46.0-47.0	192.3	15.3	799.8	1.60	83.76
47.0-48.0	178.0	14.4	814.2	1.51	85.27
48.0-49.0	163.8	13.5	827.7	1.41	86.68
49.0-50.0	149.8	12.5	840.1	1.31	87.99
50.0-51.0	136.3	11.5	851.7	1.21	89.19
51.0-52.0	123.3	10.6	862.3	1.11	90.30
52.0-53.0	110.8	9.6	871.9	1.01	91.31
53.0-54.0	98.5	8.7	880.6	0.91	92.22
54.0-55.0	86.8	7.7	888.3	0.81	93.03
55.0-56.0	76.1	6.9	895.2	0.72	93.75
56.0-57.0	65.9	6.0	901.2	0.63	94.38
57.0-58.0	56.4	5.2	906.4	0.55	94.93
58.0-59.0	47.8	4.5	910.9	0.47	95.40
59.0-60.0	40.2	3.8	914.7	0.40	95.79
60.0-61.0	33.3	3.2	917.9	0.33	96.13
61.0-62.0	27.5	2.7	920.5	0.28	96.41
62.0-63.0	22.6	2.2	922.7	0.23	96.64
63.0-64.0	18.9	1.9	924.6	0.19	96.83
64.0-65.0	16.4	1.6	926.2	0.17	97.00
65.0-66.0	14.7	1.5	927.7	0.15	97.15
66.0-67.0	13.5	1.4	929.0	0.14	97.30
67.0-68.0	12.7	1.3	930.3	0.13	97.43
68.0-69.0	12.0	1.2	931.6	0.13	97.56
69.0-70.0	11.4	1.2	932.7	0.12	97.68
70.0-71.0	10.9	1.1	933.8	0.12	97.80
71.0-72.0	10.4	1.1	934.9	0.11	97.91

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Zonal Lumen (Continue 2)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
72.0-73.0	9.9	1.0	936.0	0.11	98.02
73.0-74.0	9.4	1.0	936.9	0.10	98.12
74.0-75.0	8.8	0.9	937.9	0.10	98.22
75.0-76.0	8.3	0.9	938.8	0.09	98.31
76.0-77.0	7.7	0.8	939.6	0.09	98.40
77.0-78.0	7.1	0.8	940.3	0.08	98.48
78.0-79.0	6.5	0.7	941.0	0.07	98.55
79.0-80.0	5.8	0.6	941.7	0.07	98.62
80.0-81.0	5.0	0.5	942.2	0.06	98.67
81.0-82.0	4.0	0.4	942.6	0.05	98.72
82.0-83.0	3.0	0.3	943.0	0.03	98.75
83.0-84.0	2.1	0.2	943.2	0.02	98.78
84.0-85.0	1.5	0.2	943.4	0.02	98.80
85.0-86.0	1.2	0.1	943.5	0.01	98.81
86.0-87.0	0.9	0.1	943.6	0.01	98.82
87.0-88.0	0.7	0.1	943.7	0.01	98.83
88.0-89.0	0.4	0.0	943.7	0.00	98.83
89.0-90.0	0.2	0.0	943.7	0.00	98.84
90.0-91.0	0.1	0.0	943.8	0.00	98.84
91.0-92.0	0.1	0.0	943.8	0.00	98.84
92.0-93.0	0.1	0.0	943.8	0.00	98.84
93.0-94.0	0.1	0.0	943.8	0.00	98.84
94.0-95.0	0.1	0.0	943.8	0.00	98.84
95.0-96.0	0.2	0.0	943.8	0.00	98.84
96.0-97.0	0.2	0.0	943.8	0.00	98.85
97.0-98.0	0.2	0.0	943.9	0.00	98.85
98.0-99.0	0.2	0.0	943.9	0.00	98.85
99.0-100.0	0.3	0.0	943.9	0.00	98.85
100.0-101.0	0.3	0.0	944.0	0.00	98.86
101.0-102.0	0.3	0.0	944.0	0.00	98.86
102.0-103.0	0.4	0.0	944.0	0.00	98.87
103.0-104.0	0.4	0.0	944.1	0.00	98.87
104.0-105.0	0.5	0.1	944.1	0.01	98.88
105.0-106.0	0.5	0.1	944.2	0.01	98.88
106.0-107.0	0.6	0.1	944.3	0.01	98.89
107.0-108.0	0.6	0.1	944.3	0.01	98.90

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Zonal Lumen (Continue 3)

Gamma [°]	Imean [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
108.0-109.0	0.7	0.1	944.4	0.01	98.90
109.0-110.0	0.7	0.1	944.5	0.01	98.91
110.0-111.0	0.8	0.1	944.5	0.01	98.92
111.0-112.0	0.8	0.1	944.6	0.01	98.93
112.0-113.0	0.9	0.1	944.7	0.01	98.94
113.0-114.0	1.0	0.1	944.8	0.01	98.95
114.0-115.0	1.0	0.1	944.9	0.01	98.96
115.0-116.0	1.1	0.1	945.0	0.01	98.97
116.0-117.0	1.1	0.1	945.1	0.01	98.98
117.0-118.0	1.2	0.1	945.3	0.01	98.99
118.0-119.0	1.3	0.1	945.4	0.01	99.01
119.0-120.0	1.4	0.1	945.5	0.01	99.02
120.0-121.0	1.4	0.1	945.6	0.01	99.03
121.0-122.0	1.5	0.1	945.8	0.01	99.05
122.0-123.0	1.6	0.1	945.9	0.02	99.06
123.0-124.0	1.6	0.2	946.1	0.02	99.08
124.0-125.0	1.7	0.2	946.2	0.02	99.10
125.0-126.0	1.8	0.2	946.4	0.02	99.11
126.0-127.0	1.9	0.2	946.6	0.02	99.13
127.0-128.0	1.9	0.2	946.7	0.02	99.15
128.0-129.0	2.0	0.2	946.9	0.02	99.17
129.0-130.0	2.1	0.2	947.1	0.02	99.19
130.0-131.0	2.2	0.2	947.3	0.02	99.20
131.0-132.0	2.3	0.2	947.5	0.02	99.22
132.0-133.0	2.4	0.2	947.6	0.02	99.24
133.0-134.0	2.4	0.2	947.8	0.02	99.26
134.0-135.0	2.5	0.2	948.0	0.02	99.28
135.0-136.0	2.6	0.2	948.2	0.02	99.31
136.0-137.0	2.7	0.2	948.4	0.02	99.33
137.0-138.0	2.8	0.2	948.6	0.02	99.35
138.0-139.0	2.8	0.2	948.8	0.02	99.37
139.0-140.0	2.9	0.2	949.1	0.02	99.39
140.0-141.0	3.0	0.2	949.3	0.02	99.41
141.0-142.0	3.1	0.2	949.5	0.02	99.44
142.0-143.0	3.2	0.2	949.7	0.02	99.46
143.0-144.0	3.2	0.2	949.9	0.02	99.48

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:



## Zonal Lumen (Continue 4)

Gamma [°]	I <sub>mean</sub> [cd]	Zonal Flux [lm]	Sum Zonal Flux [lm]	Rel Zonal Flux [%]	Sum Rel Zonal Flux [%]
144.0-145.0	3.3	0.2	950.1	0.02	99.50
145.0-146.0	3.4	0.2	950.3	0.02	99.52
146.0-147.0	3.5	0.2	950.5	0.02	99.55
147.0-148.0	3.5	0.2	950.7	0.02	99.57
148.0-149.0	3.6	0.2	950.9	0.02	99.59
149.0-150.0	3.7	0.2	951.1	0.02	99.61
150.0-151.0	3.7	0.2	951.3	0.02	99.63
151.0-152.0	3.8	0.2	951.5	0.02	99.65
152.0-153.0	3.9	0.2	951.7	0.02	99.67
153.0-154.0	4.0	0.2	951.9	0.02	99.69
154.0-155.0	4.1	0.2	952.1	0.02	99.71
155.0-156.0	4.1	0.2	952.3	0.02	99.73
156.0-157.0	4.2	0.2	952.5	0.02	99.75
157.0-158.0	4.3	0.2	952.7	0.02	99.77
158.0-159.0	4.4	0.2	952.8	0.02	99.79
159.0-160.0	4.4	0.2	953.0	0.02	99.81
160.0-161.0	4.5	0.2	953.2	0.02	99.82
161.0-162.0	4.6	0.2	953.3	0.02	99.84
162.0-163.0	4.7	0.2	953.5	0.02	99.86
163.0-164.0	4.7	0.1	953.6	0.02	99.87
164.0-165.0	4.8	0.1	953.8	0.01	99.89
165.0-166.0	4.8	0.1	953.9	0.01	99.90
166.0-167.0	4.9	0.1	954.0	0.01	99.91
167.0-168.0	4.9	0.1	954.2	0.01	99.93
168.0-169.0	5.0	0.1	954.3	0.01	99.94
169.0-170.0	5.0	0.1	954.4	0.01	99.95
170.0-171.0	5.1	0.1	954.5	0.01	99.96
171.0-172.0	5.1	0.1	954.5	0.01	99.97
172.0-173.0	5.2	0.1	954.6	0.01	99.97
173.0-174.0	5.2	0.1	954.7	0.01	99.98
174.0-175.0	5.2	0.1	954.7	0.01	99.99
175.0-176.0	5.3	0.0	954.8	0.00	99.99
176.0-177.0	5.3	0.0	954.8	0.00	100.00
177.0-178.0	5.3	0.0	954.8	0.00	100.00
178.0-179.0	5.3	0.0	954.9	0.00	100.00
179.0-180.0	5.3	0.0	954.9	0.00	100.00

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Candlepower Table

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G0.0	664.6	666.2	662.3	662.0	664.6	666.2	662.3	662.0	664.6	
G1.0	663.9	666.2	664.1	662.8	664.6	665.6	661.2	660.6	663.9	
G2.0	662.8	665.7	664.2	663.0	664.0	664.4	659.6	658.5	662.8	
G3.0	661.0	664.4	663.5	662.8	662.9	662.4	657.2	656.0	661.0	
G4.0	658.4	662.6	663.8	661.8	661.0	660.0	654.4	653.1	658.4	
G5.0	655.5	660.0	661.8	660.1	658.7	657.2	651.2	649.3	655.5	
G6.0	652.0	657.0	659.2	657.9	655.8	653.7	646.9	645.2	652.0	
G7.0	647.6	653.0	654.3	654.9	651.7	649.2	642.4	641.8	647.6	
G8.0	643.0	648.7	648.8	651.0	647.4	644.6	637.4	636.5	643.0	
G9.0	638.0	643.9	644.3	646.7	642.4	639.2	631.9	630.8	638.0	
G10.0	631.8	638.0	639.3	642.8	636.8	633.2	625.7	624.4	631.8	
G11.0	625.4	631.8	632.8	637.2	630.5	626.6	618.1	617.5	625.4	
G12.0	618.4	625.1	626.1	630.3	623.0	618.6	610.8	609.2	618.4	
G13.0	610.2	618.0	619.1	623.4	615.5	610.9	604.2	601.4	610.2	
G14.0	602.2	610.3	611.4	615.9	606.7	602.8	595.1	591.9	602.2	
G15.0	593.6	601.1	603.0	607.9	598.1	594.0	586.4	583.1	593.6	
G16.0	584.8	592.3	593.4	597.2	589.2	584.0	577.2	573.1	584.8	
G17.0	574.6	580.5	584.2	588.2	579.8	574.4	567.7	563.7	574.6	
G18.0	565.0	571.1	574.8	578.8	569.1	564.8	557.9	554.0	565.0	
G19.0	555.0	560.3	565.0	569.1	558.9	554.5	545.7	543.7	555.0	
G20.0	543.6	550.1	555.0	559.1	548.6	543.1	535.3	533.3	543.6	
G21.0	537.1	539.6	543.7	547.8	537.7	532.1	524.3	521.3	537.1	
G22.0	525.1	528.8	533.0	537.3	529.5	520.9	513.2	510.2	525.1	
G23.0	513.8	516.6	522.0	525.1	518.0	509.4	501.8	498.9	513.8	
G24.0	497.3	505.2	510.6	513.8	506.3	497.8	489.2	487.9	497.3	
G25.0	486.0	493.6	497.9	502.2	490.7	484.8	477.7	476.9	486.0	
G26.0	473.6	482.8	486.0	491.3	478.6	473.2	466.4	465.7	473.6	
G27.0	462.3	470.9	474.6	477.9	465.6	461.4	454.9	454.3	462.3	
G28.0	450.3	458.8	462.6	465.8	453.3	449.3	442.0	441.6	450.3	
G29.0	437.2	446.1	450.1	452.3	440.6	436.9	430.0	429.7	437.2	
G30.0	424.9	432.3	436.2	439.4	427.5	423.9	417.6	417.5	424.9	
G31.0	411.6	418.8	423.6	424.9	413.9	410.7	404.7	404.7	411.6	
G32.0	399.2	406.4	409.6	411.9	399.0	396.3	391.7	390.4	399.2	
G33.0	384.8	392.2	396.0	396.9	385.2	382.5	376.9	376.8	384.8	
G34.0	371.4	378.8	380.8	383.1	371.1	368.6	363.2	363.0	371.4	
G35.0	357.8	363.6	366.6	368.9	357.0	354.6	349.2	349.1	357.8	
G36.0	342.5	351.2	352.5	353.3	342.8	338.9	335.1	334.9	342.5	

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
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 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G37.0	328.4	335.5	336.9	339.1	328.7	324.8	320.9	320.6	328.4	
G38.0	314.0	321.3	322.9	323.5	314.5	310.4	305.2	306.0	314.0	
G39.0	298.4	304.5	308.7	309.5	299.3	296.3	291.1	291.8	298.4	
G40.0	284.2	290.5	293.3	295.5	285.3	280.8	276.9	275.4	284.2	
G41.0	270.0	275.1	279.4	280.3	271.6	266.9	262.8	261.2	270.0	
G42.0	254.4	261.0	264.0	266.8	258.3	253.0	247.4	247.0	254.4	
G43.0	240.5	247.2	250.3	253.2	244.4	239.1	233.4	231.4	240.5	
G44.0	226.3	232.1	236.7	238.4	230.9	224.3	219.5	217.4	226.3	
G45.0	210.4	218.4	221.9	224.7	214.3	211.0	206.0	203.4	210.4	
G46.0	195.9	204.3	208.7	210.2	200.5	197.6	191.1	187.6	195.9	
G47.0	181.6	188.6	193.6	196.8	186.6	182.6	177.3	173.4	181.6	
G48.0	166.1	174.4	179.7	183.1	172.8	168.8	163.4	159.3	166.1	
G49.0	152.3	160.4	165.9	169.3	157.8	155.3	148.4	144.2	152.3	
G50.0	138.7	145.3	151.0	154.4	144.6	142.2	135.4	131.1	138.7	
G51.0	125.7	132.2	137.9	141.1	132.7	127.9	122.6	118.2	125.7	
G52.0	113.3	119.4	124.9	128.3	119.0	115.6	108.8	105.9	113.3	
G53.0	100.6	107.0	112.7	115.8	107.0	103.8	97.2	92.9	100.6	
G54.0	88.9	94.1	99.7	102.9	94.5	91.3	84.9	82.0	88.9	
G55.0	78.0	82.9	88.6	91.6	83.8	80.7	74.3	70.5	78.0	
G56.0	67.8	72.5	77.1	81.0	73.5	70.4	64.4	60.7	67.8	
G57.0	57.4	62.6	66.9	70.9	62.9	60.0	55.2	51.7	57.4	
G58.0	48.7	52.7	57.8	60.8	54.0	51.3	46.0	42.8	48.7	
G59.0	40.7	44.6	49.3	52.3	46.0	43.5	38.5	35.8	40.7	
G60.0	34.0	37.4	40.9	44.5	38.1	35.8	32.0	29.5	34.0	
G61.0	28.0	30.4	34.2	37.5	31.6	29.7	26.3	23.7	28.0	
G62.0	22.6	25.0	28.2	31.3	26.2	24.5	21.2	19.6	22.6	
G63.0	18.9	20.6	23.2	25.5	21.4	20.0	17.7	16.4	18.9	
G64.0	16.5	17.4	19.3	21.1	18.0	17.0	15.3	14.8	16.5	
G65.0	14.9	15.4	16.3	17.8	15.6	15.1	13.9	13.6	14.9	
G66.0	13.9	14.1	14.6	15.8	14.2	13.7	12.9	12.6	13.9	
G67.0	13.0	13.0	13.6	14.4	13.3	12.8	12.3	12.1	13.0	
G68.0	12.3	12.4	12.8	13.4	12.3	12.1	11.6	11.5	12.3	
G69.0	11.8	11.8	12.1	12.5	11.6	11.5	11.2	10.9	11.8	
G70.0	11.3	11.2	11.5	11.9	11.1	11.0	10.6	10.5	11.3	
G71.0	10.7	10.7	11.0	11.3	10.5	10.5	10.2	10.0	10.7	
G72.0	10.2	10.2	10.6	10.8	10.1	10.0	9.7	9.4	10.2	
G73.0	9.7	9.7	10.1	10.4	9.5	9.6	9.1	8.9	9.7	

C Plane (°):0.0-360.0: 45.0  
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 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Candlepower Table (Continue 2)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G74.0	9.2	9.2	9.5	9.9	9.0	9.0	8.6	8.4	9.2	
G75.0	8.6	8.7	9.0	9.4	8.5	8.5	8.1	7.8	8.6	
G76.0	8.0	8.2	8.5	8.8	7.8	7.9	7.6	7.3	8.0	
G77.0	7.2	7.6	8.0	8.3	7.4	7.3	7.0	6.7	7.2	
G78.0	6.1	7.1	7.4	7.8	6.7	6.7	6.4	6.1	6.1	
G79.0	5.7	6.4	6.8	7.2	6.0	6.1	5.7	5.4	5.7	
G80.0	4.3	5.8	6.2	6.5	5.3	5.4	5.1	4.7	4.3	
G81.0	3.2	5.0	5.5	5.9	4.1	4.7	4.3	3.6	3.2	
G82.0	2.2	4.1	4.7	5.2	2.9	3.9	3.1	2.3	2.2	
G83.0	1.4	2.6	3.6	4.4	2.0	2.6	1.9	1.6	1.4	
G84.0	1.2	1.6	2.1	3.2	1.4	1.7	1.6	1.4	1.2	
G85.0	0.9	1.4	1.5	1.8	1.1	1.4	1.3	1.1	0.9	
G86.0	0.7	1.1	1.3	1.5	0.8	1.1	1.0	0.8	0.7	
G87.0	0.5	0.8	1.0	1.3	0.6	0.9	0.7	0.6	0.5	
G88.0	0.3	0.6	0.6	0.9	0.4	0.6	0.4	0.3	0.3	
G89.0	0.1	0.3	0.5	0.8	0.1	0.3	0.1	0.2	0.1	
G90.0	0.1	0.1	0.2	0.3	0.1	0.0	0.1	0.2	0.1	
G91.0	0.2	0.0	0.0	0.2	0.0	0.1	0.1	0.2	0.2	
G92.0	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	
G93.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
G94.0	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	
G95.0	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	
G96.0	0.2	0.1	0.2	0.2	0.1	0.1	0.3	0.2	0.2	
G97.0	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.2	
G98.0	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	
G99.0	0.2	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	
G100.0	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	
G101.0	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	
G102.0	0.3	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.3	
G103.0	0.5	0.4	0.4	0.6	0.3	0.3	0.4	0.5	0.5	
G104.0	0.5	0.4	0.5	0.4	0.4	0.3	0.5	0.5	0.5	
G105.0	0.5	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.5	
G106.0	0.5	0.5	0.6	0.5	0.5	0.4	0.6	0.6	0.5	
G107.0	0.5	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.5	
G108.0	0.7	0.6	0.7	0.6	0.6	0.5	0.7	0.7	0.7	
G109.0	0.8	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.8	
G110.0	0.8	0.8	0.8	0.8	0.7	0.6	0.8	0.8	0.8	

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Candlepower Table (Continue 3)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G111.0	0.9	0.8	0.9	0.8	0.7	0.7	0.8	0.9	0.9	
G112.0	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.9	0.9	
G113.0	1.0	0.9	0.9	1.0	0.8	0.8	0.9	0.9	1.0	
G114.0	1.1	1.0	1.0	1.1	0.9	0.9	1.0	1.0	1.1	
G115.0	1.1	1.1	1.1	1.2	0.9	0.9	0.9	1.0	1.1	
G116.0	1.2	1.2	1.2	1.2	0.9	1.0	1.0	1.1	1.2	
G117.0	1.3	1.2	1.2	1.3	1.0	1.1	1.1	1.2	1.3	
G118.0	1.4	1.3	1.3	1.4	1.2	1.2	1.2	1.2	1.4	
G119.0	1.5	1.4	1.4	1.5	1.2	1.2	1.3	1.3	1.5	
G120.0	1.5	1.5	1.5	1.5	1.2	1.3	1.3	1.4	1.5	
G121.0	1.6	1.5	1.5	1.6	1.3	1.4	1.4	1.4	1.6	
G122.0	1.7	1.6	1.6	1.6	1.3	1.4	1.5	1.5	1.7	
G123.0	1.7	1.7	1.7	1.7	1.4	1.4	1.5	1.6	1.7	
G124.0	1.8	1.8	1.8	1.8	1.6	1.5	1.6	1.6	1.8	
G125.0	2.0	1.9	1.9	1.9	1.6	1.6	1.7	1.7	2.0	
G126.0	1.9	1.9	2.0	2.0	1.7	1.6	1.8	1.8	1.9	
G127.0	2.1	2.0	2.0	2.0	1.7	1.7	1.8	1.8	2.1	
G128.0	2.2	2.1	2.1	2.1	1.8	1.8	1.9	1.9	2.2	
G129.0	2.2	2.2	2.2	2.2	1.9	1.9	2.0	2.0	2.2	
G130.0	2.3	2.3	2.3	2.3	2.0	2.0	2.1	2.1	2.3	
G131.0	2.4	2.4	2.3	2.4	2.0	2.1	2.1	2.1	2.4	
G132.0	2.5	2.5	2.4	2.5	2.1	2.2	2.2	2.2	2.5	
G133.0	2.6	2.5	2.5	2.5	2.2	2.2	2.3	2.3	2.6	
G134.0	2.7	2.7	2.6	2.6	2.2	2.3	2.4	2.4	2.7	
G135.0	2.8	2.7	2.7	2.7	2.3	2.3	2.4	2.4	2.8	
G136.0	2.8	2.8	2.8	2.8	2.4	2.5	2.5	2.5	2.8	
G137.0	2.9	2.9	2.9	2.9	2.5	2.5	2.6	2.7	2.9	
G138.0	3.0	3.0	2.9	3.0	2.5	2.7	2.6	2.7	3.0	
G139.0	3.0	3.0	3.1	3.1	2.6	2.7	2.7	2.8	3.0	
G140.0	3.2	3.1	3.2	3.2	2.7	2.8	2.7	2.9	3.2	
G141.0	3.3	3.2	3.2	3.2	2.8	2.8	2.8	3.0	3.3	
G142.0	3.3	3.3	3.3	3.3	2.9	3.0	2.9	3.0	3.3	
G143.0	3.4	3.3	3.4	3.3	3.0	3.0	3.0	3.1	3.4	
G144.0	3.5	3.4	3.4	3.4	3.0	3.1	3.1	3.1	3.5	
G145.0	3.6	3.5	3.5	3.5	3.1	3.1	3.2	3.2	3.6	
G146.0	3.7	3.5	3.6	3.6	3.2	3.2	3.2	3.3	3.7	
G147.0	3.7	3.7	3.7	3.7	3.2	3.3	3.3	3.4	3.7	

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:

## Candlepower Table (Continue 4)

Unit: cd

G\C	C0.0	C45.0	C90.0	C135.0	C180.0	C225.0	C270.0	C315.0	C360.0	
G148.0	3.8	3.7	3.8	3.8	3.3	3.3	3.3	3.4	3.8	
G149.0	3.9	3.8	3.8	3.9	3.3	3.5	3.4	3.5	3.9	
G150.0	4.0	3.8	3.9	3.9	3.5	3.5	3.5	3.5	4.0	
G151.0	4.0	3.9	4.0	4.0	3.5	3.6	3.5	3.7	4.0	
G152.0	4.1	4.0	4.1	4.0	3.6	3.7	3.6	3.8	4.1	
G153.0	4.1	4.1	4.1	4.1	3.9	3.8	3.8	3.9	4.1	
G154.0	4.2	4.1	4.2	4.2	3.8	3.8	3.9	3.9	4.2	
G155.0	4.3	4.2	4.3	4.2	3.9	4.0	3.9	4.0	4.3	
G156.0	4.3	4.3	4.3	4.3	3.9	4.0	4.0	4.0	4.3	
G157.0	4.4	4.3	4.4	4.4	4.1	4.1	4.1	4.1	4.4	
G158.0	4.5	4.4	4.5	4.5	4.1	4.2	4.2	4.2	4.5	
G159.0	4.5	4.5	4.6	4.5	4.2	4.3	4.3	4.3	4.5	
G160.0	4.6	4.5	4.7	4.6	4.3	4.4	4.3	4.4	4.6	
G161.0	4.6	4.6	4.7	4.7	4.4	4.5	4.5	4.5	4.6	
G162.0	4.7	4.7	4.8	4.7	4.5	4.6	4.5	4.6	4.7	
G163.0	4.7	4.7	4.8	4.8	4.5	4.6	4.6	4.6	4.7	
G164.0	4.8	4.8	4.9	4.8	4.6	4.6	4.7	4.7	4.8	
G165.0	4.8	4.8	4.9	4.9	4.7	4.7	4.8	4.8	4.8	
G166.0	4.9	4.9	4.9	4.9	4.7	4.8	4.8	4.9	4.9	
G167.0	5.0	4.9	5.0	5.0	4.8	4.8	4.9	4.8	5.0	
G168.0	5.0	4.9	5.1	5.1	4.8	4.8	4.9	4.9	5.0	
G169.0	5.1	5.0	5.1	5.1	4.9	5.0	4.9	5.0	5.1	
G170.0	5.1	5.1	5.1	5.1	5.0	5.0	5.0	5.1	5.1	
G171.0	5.1	5.1	5.2	5.2	5.0	5.1	5.0	5.1	5.1	
G172.0	5.2	5.1	5.2	5.2	5.1	5.1	5.1	5.2	5.2	
G173.0	5.2	5.2	5.3	5.3	5.1	5.2	5.1	5.2	5.2	
G174.0	5.2	5.2	5.3	5.3	5.1	5.2	5.2	5.2	5.2	
G175.0	5.3	5.2	5.3	5.3	5.2	5.2	5.2	5.3	5.3	
G176.0	5.3	5.3	5.3	5.3	5.3	5.3	5.2	5.3	5.3	
G177.0	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.3	5.3	
G178.0	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.3	5.3	
G179.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	
G180.0	5.3	5.3	5.3	5.3	5.3	5.4	5.4	5.4	5.3	

C Plane (°):0.0-360.0: 45.0  
 Test Lab: Inventfine instruments  
 Test Type: TYPE C  
 Temperature: 26  
 Operator: ATC

Gamma Plane (°):0.0-180.0:1.0  
 Test Device: GPM-1800B  
 Distance: 8.499 m  
 Humidity: 65  
 Inspector:



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## ATC MIDDLE EAST FZCO

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