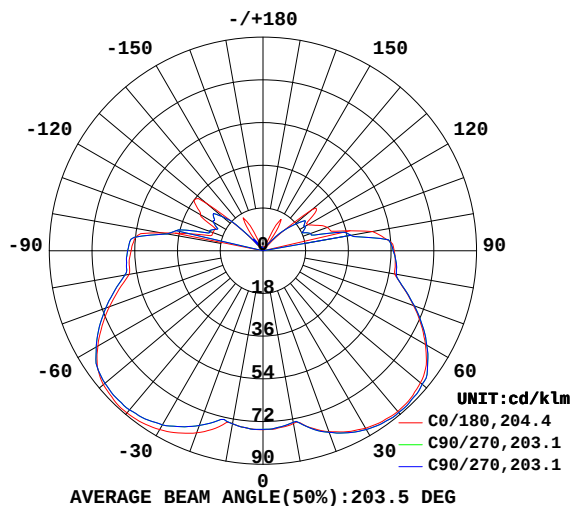


LUMINAIRE PHOTOMETRIC TEST REPORT

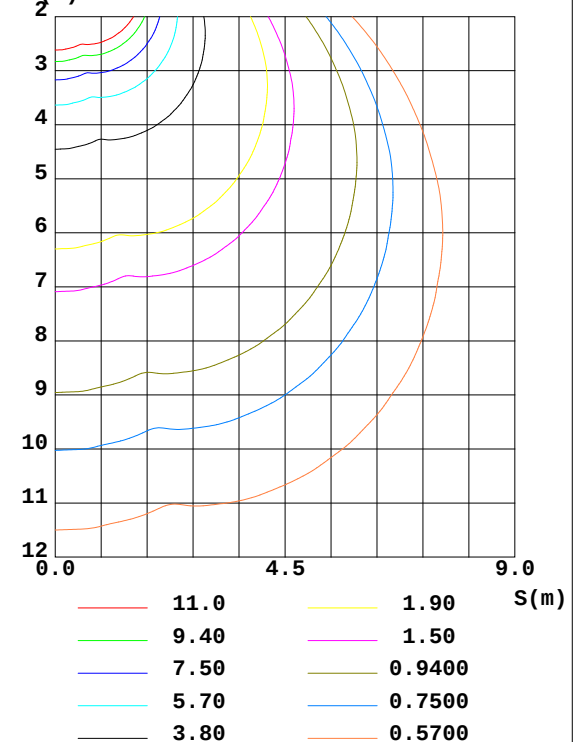
Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 80.91 lm/W			
MODEL	WL153-8W-D-3000K	I _{max} (cd/klm)	89.28	S/MH(C0/180)	1.76
NOMINAL POWER(W)	8	LOR(%)	62.0	S/MH(C90/270)	1.74
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm/klm)	619.96	η UP, DN(C0-180)	7.3, 23.3
NOMINAL FLUX(lm)	1000	CIE CLASS	SEMI-D.	η UP, DN(C180-360)	7.8, 23.5
LAMPS INSIDE	1	η up(%)	15.1	CIBSE SHR NOM	2.00
TEST VOLTAGE(V)	220.0	η down(%)	46.9	CIBSE SHR MAX	2.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx/klm)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

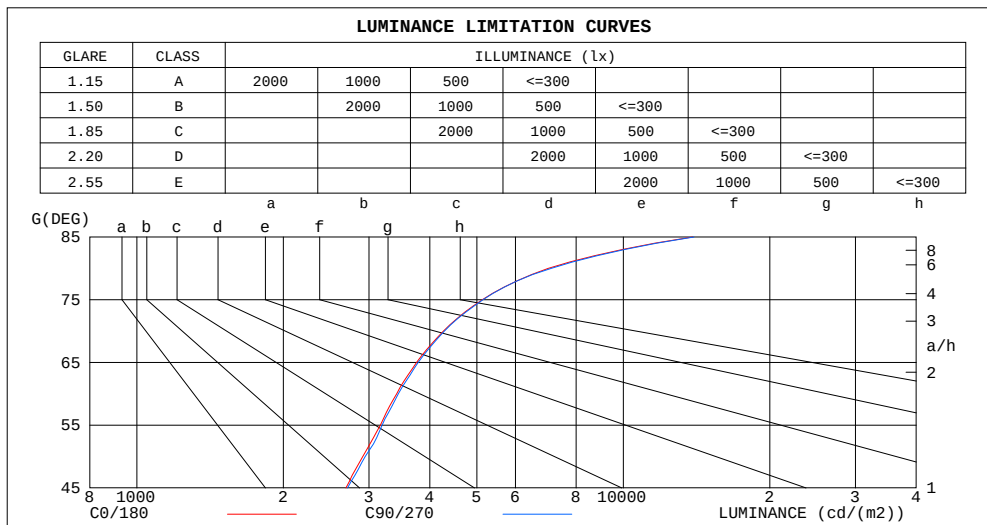
γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum, lamp
10	73.93	73.39	74.04	74.01					0- 10	7.122	7.122	1.15,0.71
20	81.14	81.40	81.60	78.31					10- 20	21.84	28.96	4.67,2.9
30	86.39	86.98	87.03	84.71					20- 30	38.81	67.78	10.9,6.78
40	88.37	88.97	89.16	87.53					30- 40	55.08	122.9	19.8,12.3
50	86.59	87.54	87.80	86.90					40- 50	68.25	191.1	30.8,19.1
60	79.08	79.66	80.33	81.14					50- 60	75.63	266.7	43,26.7
70	67.48	67.80	68.84	70.48					60- 70	73.90	340.6	54.9,34.1
80	56.29	57.11	57.23	59.14					70- 80	66.30	406.9	65.6,40.7
90	55.28	54.89	55.60	57.06					80- 90	61.73	468.7	75.6,46.9
100	46.85	37.65	43.56	41.13					90-100	56.62	525.3	84.7,52.5
110	28.86	21.38	22.50	23.93					100-110	32.96	558.2	90,55.8
120	21.99	20.54	30.66	24.11					110-120	22.95	581.2	93.7,58.1
130	26.93	17.06	30.96	22.34					120-130	23.31	604.5	97.5,60.4
140	1.152	5.745	1.176	4.682					130-140	9.543	614.0	99,61.4
150	15.28	0.9428	15.13	1.058					140-150	3.638	617.7	99.6,61.8
160	0.8654	0.9487	0.8712	0.8894					150-160	1.863	619.5	99.9,62
170	0.9202	1.100	0.8831	0.8773					160-170	0.3379	619.9	100,62
180	0.8235	0.8116	0.8295	0.8175					170-180	0.0843	620.0	100,62
DEG	LUMINOUS INTENSITY:cd/klm									UNIT: lm/klm		

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:8.600m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:



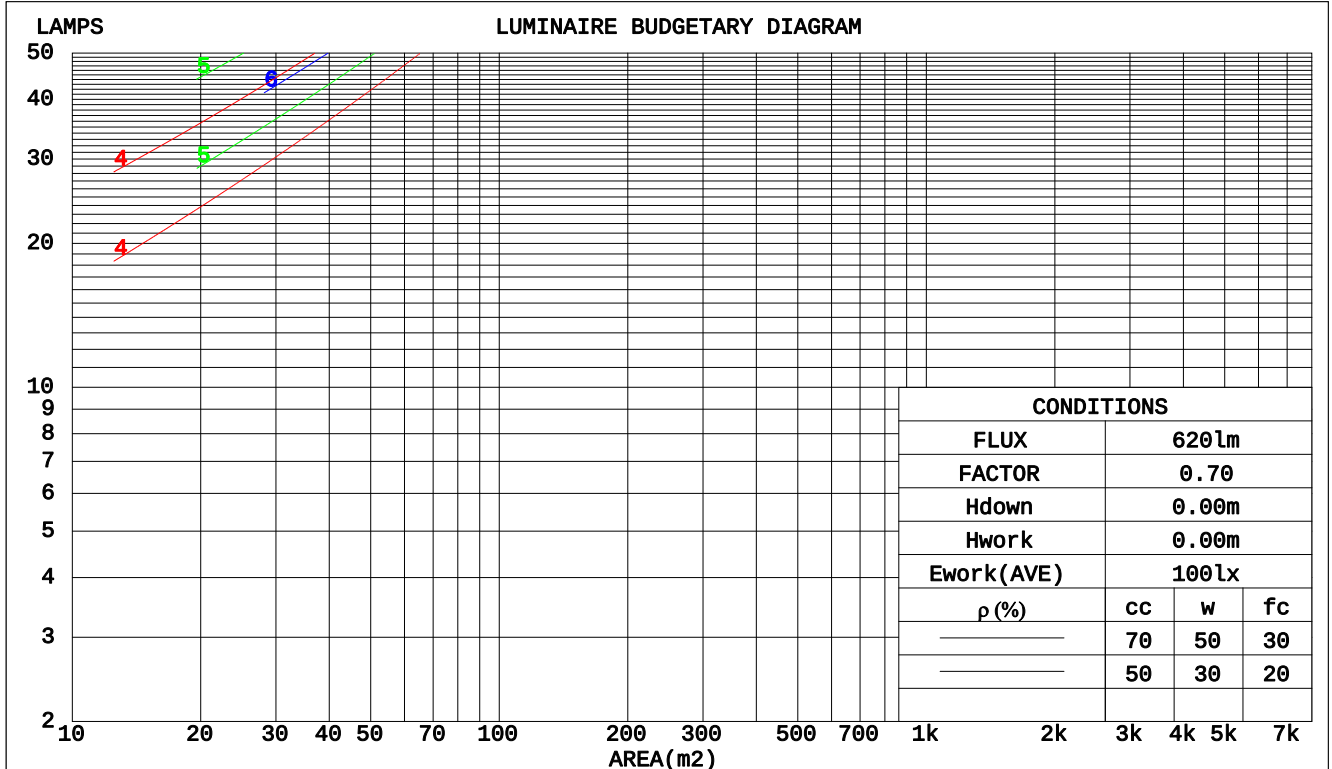
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_W	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	Coefficients of Utilization(CU)															
0.0	.70	.70	.70	.67	.67	.67	.60	.60	.60	.55	.55	.55	.49	.49	.49	.47
1.0	.57	.53	.50	.54	.51	.48	.49	.46	.44	.44	.41	.40	.39	.37	.36	.33
2.0	.48	.43	.39	.46	.41	.37	.41	.37	.34	.37	.33	.31	.32	.30	.28	.25
3.0	.41	.35	.31	.39	.34	.29	.35	.31	.27	.31	.28	.25	.28	.25	.22	.20
4.0	.36	.30	.25	.34	.28	.24	.31	.26	.22	.27	.23	.20	.24	.21	.18	.16
5.0	.32	.26	.21	.30	.24	.20	.27	.22	.19	.24	.20	.17	.21	.18	.15	.14
6.0	.28	.22	.18	.27	.21	.17	.24	.19	.16	.22	.18	.14	.19	.16	.13	.11
7.0	.25	.19	.15	.24	.19	.15	.22	.17	.14	.19	.15	.13	.17	.14	.11	.10
8.0	.23	.17	.13	.22	.17	.13	.20	.15	.12	.18	.14	.11	.16	.12	.10	.09
9.0	.21	.15	.12	.20	.15	.11	.18	.14	.11	.16	.12	.10	.15	.11	.09	.08
10.0	.19	.14	.10	.18	.13	.10	.16	.12	.09	.15	.11	.09	.13	.10	.08	.07



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm					
NAME: WL153-8W-D-3000K			TYPE: 8W		WEIGHT:
SPEC.: 3000K			DIM.:		SERIAL No.:
MFR.:			SUR.: 0.04624		Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.263	.149	.047	.254	.145	.046	.237	.136	.043	.221	.127	.041	.206	.120	.039	
2.0	.222	.122	.037	.213	.118	.036	.198	.110	.034	.184	.103	.032	.170	.096	.030	
3.0	.194	.103	.031	.187	.100	.030	.173	.094	.028	.160	.087	.027	.147	.082	.025	
4.0	.173	.090	.026	.166	.087	.026	.154	.081	.024	.142	.076	.023	.130	.071	.022	
5.0	.156	.080	.023	.150	.077	.022	.138	.072	.021	.128	.067	.020	.117	.063	.019	
6.0	.143	.071	.020	.137	.069	.020	.126	.065	.019	.116	.060	.018	.107	.056	.017	
7.0	.131	.065	.018	.126	.063	.018	.116	.059	.017	.107	.055	.016	.098	.051	.015	
8.0	.121	.059	.017	.116	.057	.016	.107	.054	.015	.099	.050	.014	.091	.047	.014	
9.0	.112	.054	.015	.108	.053	.015	.100	.049	.014	.092	.046	.013	.084	.043	.012	
10.0	.105	.050	.014	.101	.049	.014	.093	.046	.013	.086	.043	.012	.079	.040	.011	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.233	.233	.233	.199	.199	.199	.136	.136	.136	.078	.078	.078	.025	.025	.025	
1.0	.233	.212	.194	.199	.182	.167	.136	.125	.115	.078	.073	.067	.025	.023	.022	
2.0	.229	.199	.173	.196	.171	.149	.135	.118	.104	.078	.069	.061	.025	.022	.020	
3.0	.225	.189	.160	.193	.163	.139	.132	.113	.097	.076	.066	.057	.025	.021	.019	
4.0	.220	.181	.152	.189	.157	.132	.130	.109	.093	.075	.064	.055	.024	.021	.018	
5.0	.215	.175	.146	.185	.152	.127	.127	.106	.090	.074	.062	.053	.024	.020	.018	
6.0	.211	.170	.142	.181	.148	.123	.125	.103	.087	.072	.061	.052	.023	.020	.017	
7.0	.206	.166	.139	.177	.144	.121	.122	.101	.086	.071	.060	.051	.023	.020	.017	
8.0	.202	.163	.136	.174	.141	.119	.120	.099	.084	.070	.059	.050	.023	.019	.017	
9.0	.198	.160	.135	.170	.139	.118	.118	.098	.083	.069	.058	.050	.022	.019	.016	
10.0	.194	.158	.133	.167	.137	.116	.116	.096	.083	.068	.057	.049	.022	.019	.016	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHdi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm											
NAME: WL153-8W-D-3000K					TYPE: 8W			WEIGHT:			
SPEC.: 3000K					DIM.:			SERIAL No.:			
MFR.:					SUR.: 0.04624			Shielding Angle:			
ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3	
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3	
working 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	15.6	16.9	16.2	17.6	18.3	15.6	17.0	16.2	17.6	18.3	
	3H	18.1	19.4	18.7	20.0	20.8	18.2	19.4	18.8	20.1	20.8
	4H	19.5	20.7	20.1	21.3	22.1	19.5	20.7	20.2	21.4	22.1
	6H	21.0	22.1	21.7	22.8	23.6	21.0	22.2	21.7	22.8	23.6
	8H	21.9	23.0	22.6	23.7	24.5	21.9	23.0	22.6	23.7	24.5
	12H	23.0	24.1	23.7	24.8	25.6	23.1	24.1	23.7	24.8	25.6
4H	2H	16.4	17.6	17.1	18.3	19.0	16.4	17.6	17.1	18.3	19.1
	3H	19.1	20.2	19.8	20.9	21.7	19.2	20.2	19.8	20.9	21.7
	4H	20.7	21.6	21.4	22.3	23.2	20.7	21.7	21.4	22.4	23.2
	6H	22.4	23.2	23.1	24.0	24.8	22.4	23.2	23.1	24.0	24.9
	8H	23.4	24.2	24.1	24.9	25.8	23.4	24.2	24.1	25.0	25.8
	12H	24.6	25.3	25.3	26.1	27.0	24.6	25.4	25.4	26.2	27.1
8H	4H	21.2	22.1	22.0	22.8	23.7	21.3	22.1	22.0	22.8	23.7
	6H	23.2	23.9	24.0	24.7	25.6	23.3	23.9	24.0	24.7	25.6
	8H	24.4	25.1	25.2	25.9	26.8	24.5	25.1	25.3	25.9	26.8
	12H	25.9	26.5	26.7	27.3	28.2	26.0	26.5	26.8	27.3	28.3
12H	4H	21.4	22.1	22.1	22.9	23.8	21.4	22.2	22.1	22.9	23.8
	6H	23.5	24.1	24.3	24.9	25.9	23.5	24.2	24.3	24.9	25.9
	8H	24.8	25.4	25.6	26.2	27.2	24.9	25.4	25.7	26.2	27.2
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4					

CIE Pub.117, 1000 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 0.0$)
Area: 0.04624 m²

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:

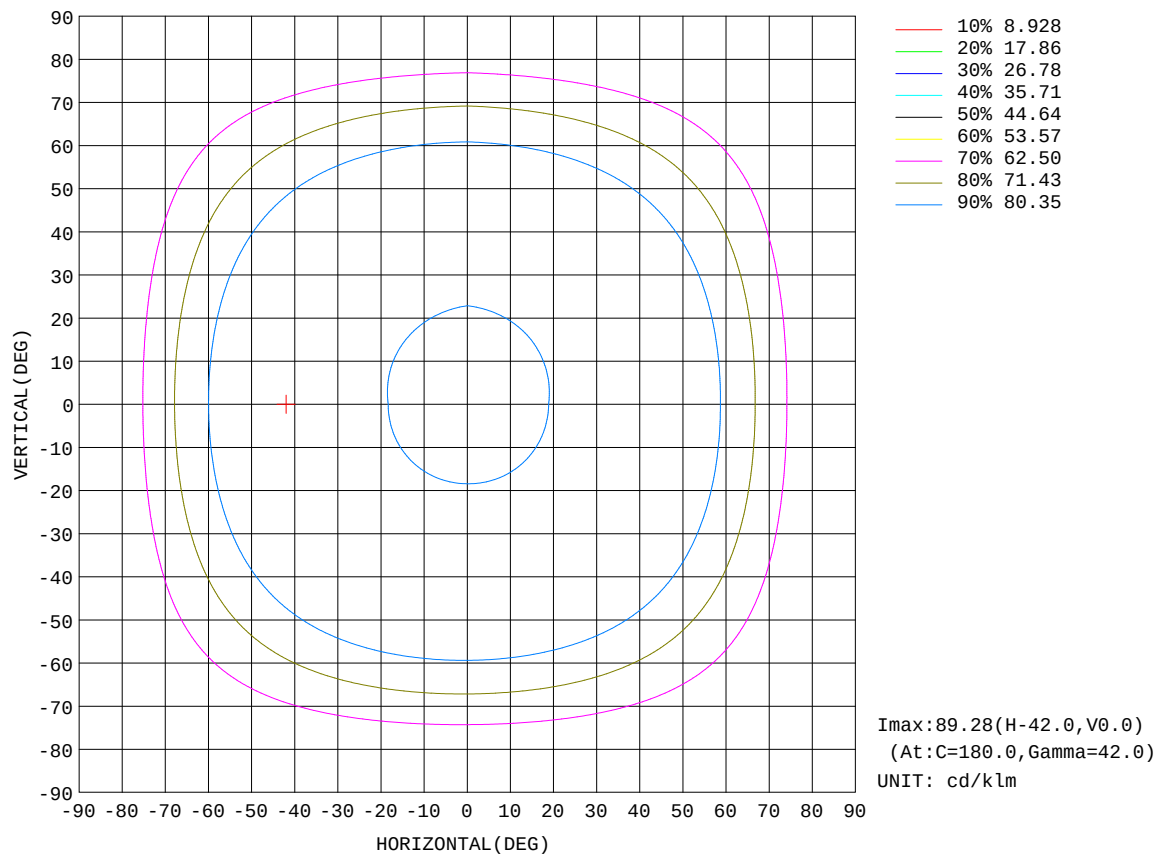
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	26	18	13	25	18	13	24	17	13	9
0.80	32	23	18	31	23	18	29	22	17	12
1.00	37	28	22	35	27	22	33	27	21	15
1.25	41	32	26	39	31	26	36	30	25	18
1.50	44	36	30	42	35	29	39	32	28	21
2.00	49	41	35	47	40	34	43	37	32	24
2.50	52	45	39	50	43	38	45	40	36	27
3.00	54	48	43	52	46	41	47	42	38	29
4.00	58	52	47	55	50	45	50	46	42	32
5.00	60	55	50	57	52	48	51	48	45	34
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:

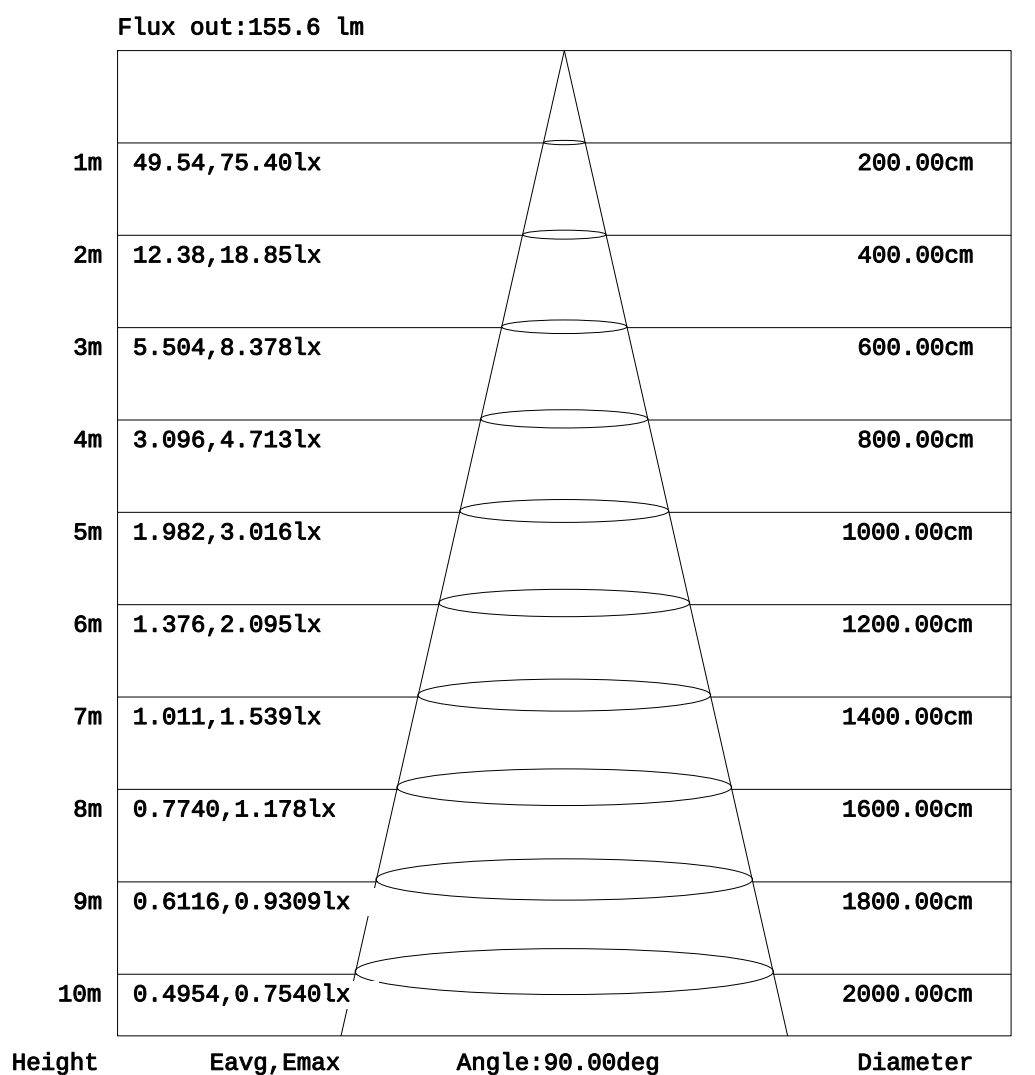


C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 8.600m [K=1.0000]
Remarks:

AAI Figure

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:



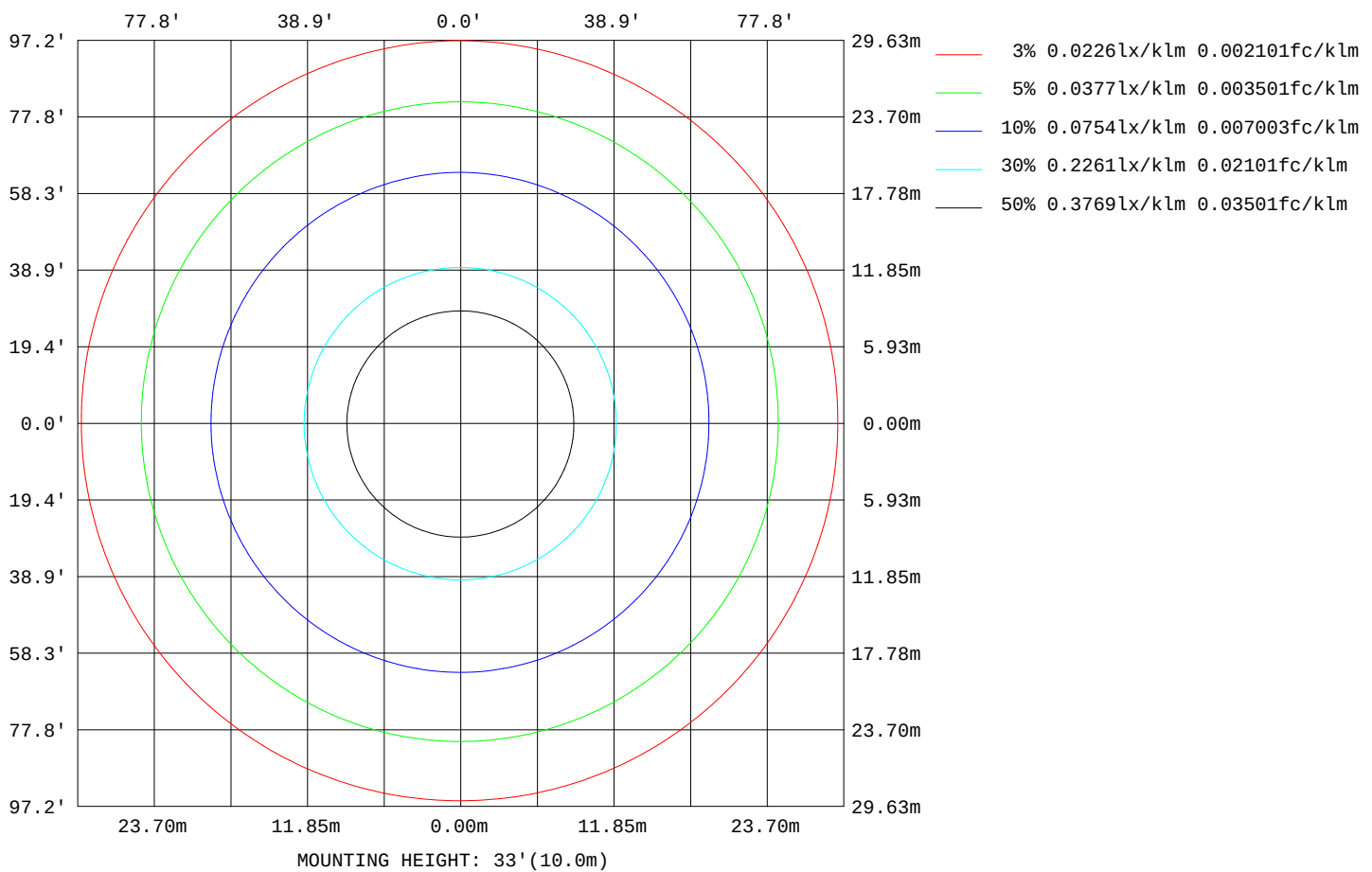
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 8.600m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:

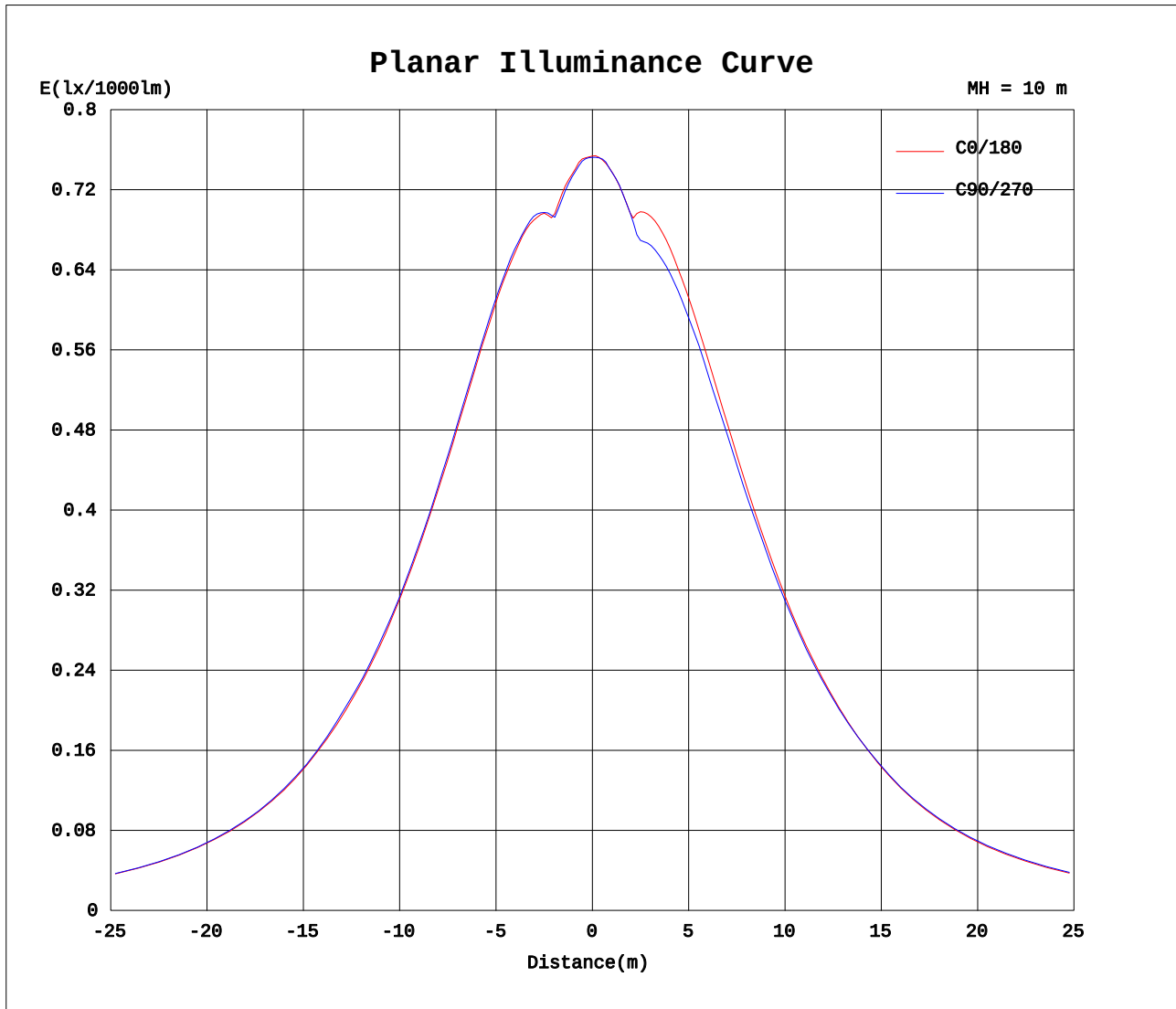
AvgL	cd/m2
L_0~180(65)av	3792
L_0~180(75)av	5188
L_0~180(85)av	13964
L_90~270(65)av	3841
L_90~270(75)av	5273
L_90~270(85)av	14143
L_45(65)av	3825
L_45(75)av	5244
L_45(85)av	14081

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity: 65.0%
Test Distance: 8.600m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:231.08V I:0.0365A P:7.6619W PF:0.9081 Freq:49.99Hz UTHDi:0.21% ITHDi:26.32% KDisp:0.9394 Lamp Flux:1000x1 lm		
NAME: WL153-8W-D-3000K	TYPE: 8W	WEIGHT:
SPEC.: 3000K	DIM.:	SERIAL No.:
MFR.:	SUR.: 0.04624	Shielding Angle:

Table--1

UNIT: cd/klm

C(DEG) γ (DEG)	0	90	180	270															
0	75.4	75.2	75.4	75.2															
5	75.0	74.7	75.1	75.0															
10	73.9	73.4	74.0	74.0															
15	77.2	77.3	77.4	74.1															
20	81.1	81.4	81.6	78.3															
25	84.1	84.6	84.7	81.8															
30	86.4	87.0	87.0	84.7															
35	87.7	88.5	88.6	86.5															
40	88.4	89.0	89.2	87.5															
45	88.0	88.6	88.9	87.5															
50	86.6	87.5	87.8	86.9															
55	84.0	84.7	85.2	85.3															
60	79.1	79.7	80.3	81.1															
65	73.4	74.0	74.8	76.1															
70	67.5	67.8	68.8	70.5															
75	61.4	61.6	62.8	64.6															
80	56.3	57.1	57.2	59.1															
85	56.0	56.3	56.6	57.7															
90	55.3	54.9	55.6	57.1															
95	52.7	53.1	54.4	55.9															
100	46.8	37.6	43.6	41.1															
105	32.0	28.6	25.8	33.7															
110	28.9	21.4	22.5	23.9															
115	25.4	18.1	22.1	21.5															
120	22.0	20.5	30.7	24.1															
125	25.5	21.9	35.1	25.5															
130	26.9	17.1	31.0	22.3															
135	10.4	11.5	11.7	12.3															
140	1.15	5.75	1.18	4.68															
145	7.74	2.38	10.6	4.58															
150	15.3	0.94	15.1	1.06															
155	4.82	0.95	4.30	1.05															
160	0.87	0.95	0.87	0.89															
165	1.57	1.31	1.46	1.79															
170	0.92	1.10	0.88	0.88															
175	0.93	0.89	0.87	0.82															
180	0.82	0.81	0.83	0.82															

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:8.600m [K=1.0000]
Remarks: