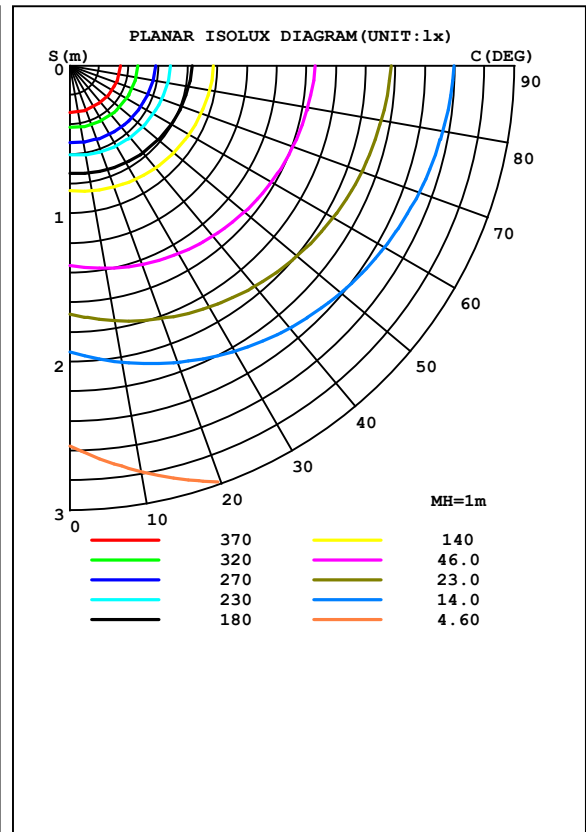
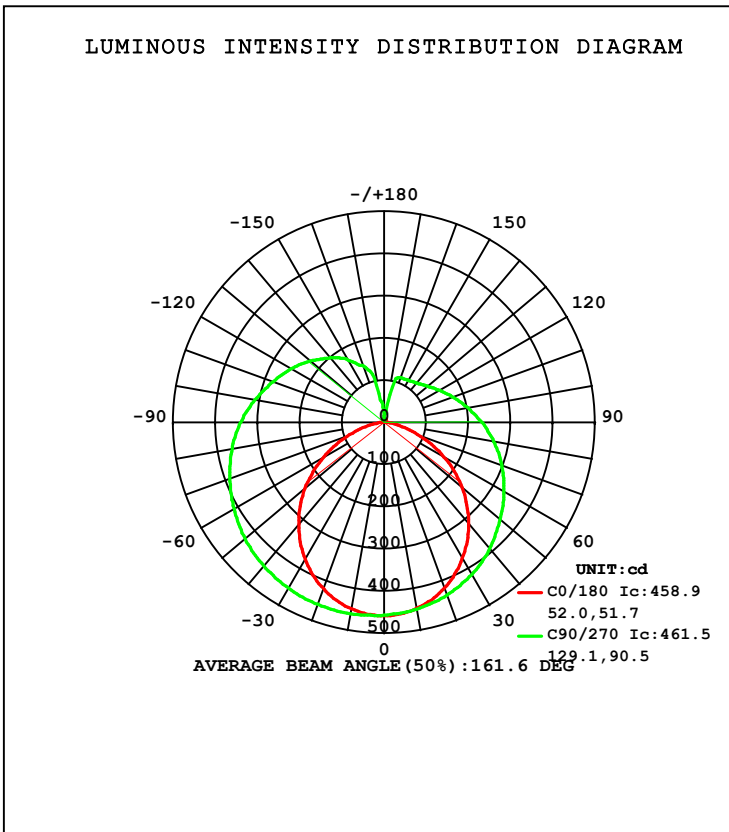


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.37 lm/W			
MODEL	T8 24W 6000K	I _{max} (cd)	461.5	S/MH (C0/180)	1.22
NOMINAL POWER (W)	24	LOR (%)	100.0	S/MH (C90/270)	1.51
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	2556.2	η UP, DN (C0-180)	11.4, 33.0
NOMINAL FLUX (lm)	2556.21	CIE CLASS	SEMI-D.	η UP, DN (C180-360)	17.7, 37.9
LAMPS INSIDE	1	η up (%)	29.1	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	220	η down (%)	70.9	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SEE
 Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:7.630m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	447.6	448.8	449.7	449.5	449.0	456.6	461.5	456.0	0- 10	43.45	43.45	1.7,1.7
20	418.9	425.8	435.9	427.6	420.6	443.0	459.4	441.1	10- 20	125.6	169.1	6.61,6.61
30	372.2	394.3	416.4	396.7	375.3	419.1	453.9	416.5	20- 30	194.3	363.4	14.2,14.2
40	312.6	354.3	390.4	357.8	315.8	386.7	444.5	384.5	30- 40	243.0	606.4	23.7,23.7
50	242.3	309.0	359.3	312.1	245.5	349.4	430.2	347.5	40- 50	268.1	874.5	34.2,34.2
60	164.4	261.6	328.5	266.4	166.2	311.1	411.1	309.4	50- 60	269.6	1144	44.8,44.8
70	85.28	219.1	297.1	225.4	87.58	274.2	389.8	273.0	60- 70	252.1	1396	54.6,54.6
80	23.20	183.5	264.3	188.2	24.15	243.0	366.1	242.5	70- 80	222.8	1619	63.3,63.3
90	1.897	153.0	232.2	157.4	1.568	217.9	340.3	217.5	80- 90	193.4	1812	70.9,70.9
100	2.525	128.6	202.1	132.3	2.084	197.3	310.9	196.6	90-100	169.8	1982	77.5,77.5
110	3.260	111.6	175.1	114.6	2.817	185.8	281.9	185.4	100-110	147.3	2129	83.3,83.3
120	4.069	101.6	152.3	100.5	3.773	168.3	254.7	175.5	110-120	125.5	2255	88.2,88.2
130	4.863	98.66	134.4	86.60	4.853	141.0	228.2	166.1	120-130	102.5	2357	92.2,92.2
140	5.547	100.8	122.2	77.53	5.920	114.0	199.9	156.3	130-140	79.80	2437	95.3,95.3
150	6.814	105.8	115.8	70.60	6.900	89.99	171.2	144.3	140-150	58.74	2496	97.6,97.6
160	7.796	100.1	113.5	69.93	7.659	81.28	142.1	123.4	150-160	39.30	2535	99.2,99.2
170	8.174	34.99	28.60	29.34	8.101	66.26	55.11	69.37	160-170	18.30	2554	99.9,99.9
180	8.212	7.639	6.649	6.453	8.162	7.573	6.641	6.457	170-180	2.625	2556	100,100
DEG	LUMINOUS INTENSITY:cd Less than 35% Percent = 38.5 %									UNIT:lm		

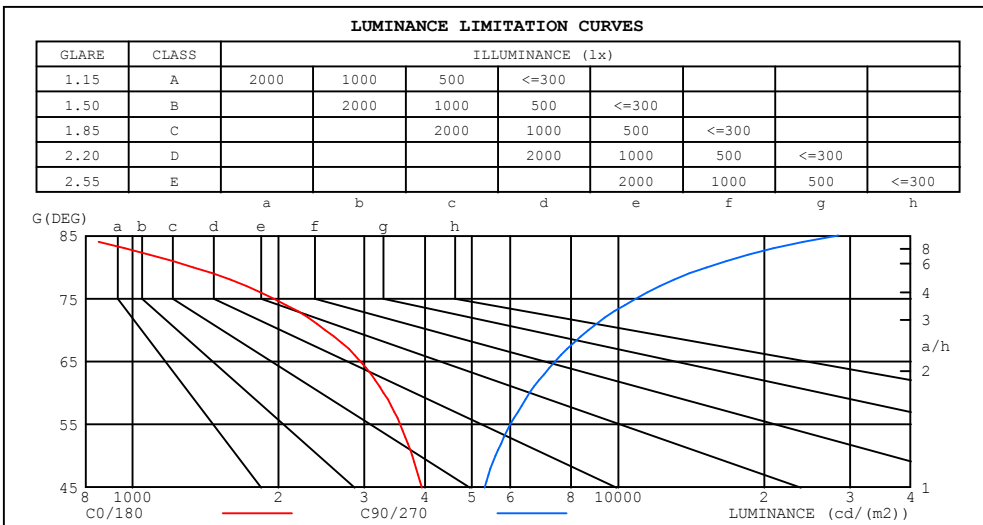
0 - 60 DEG Zonal Flux:1144 %lum: 44.8%
0 - 45 DEG Zonal Flux:738.8 %lum: 28.9%
@35% Iavg: 26.6%
@50% Iavg: 38.6%

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SEE
Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:60%
Test Distance:7.630m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:



LUMINANCE cd/ (m2)		
G (DEG)	C0/180	C90/270
85	756	28406
80	1336	15220
75	1955	10854
70	2493	8687
65	2948	7404
60	3289	6570
55	3556	6001
50	3770	5590
45	3937	5301

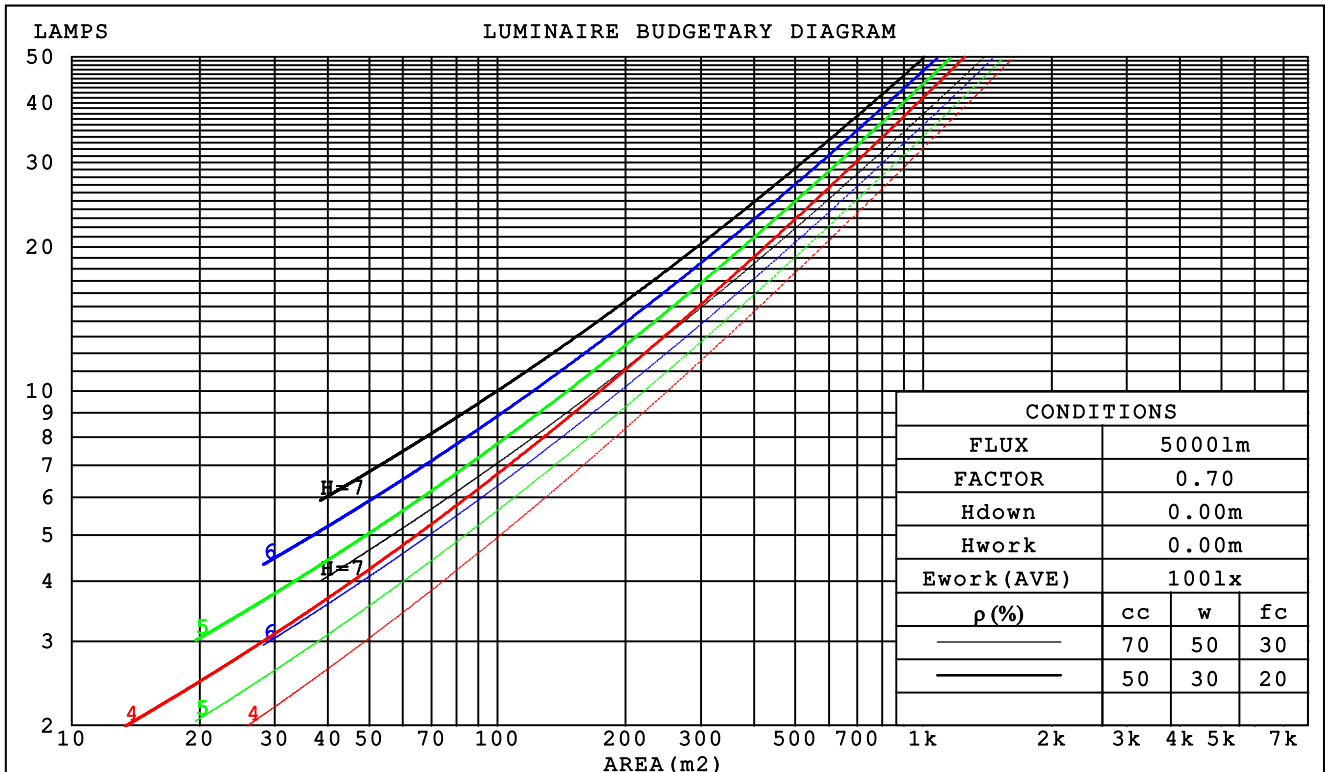
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SEE
 Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:7.630m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	1.12	1.12	1.12	1.06	1.06	1.06	.95	.95	.95	.85	.85	.85	.75	.75	.75	.71
1.0	.93	.88	.83	.88	.83	.79	.78	.75	.71	.69	.66	.64	.61	.59	.57	.53
2.0	.80	.72	.65	.75	.68	.62	.67	.61	.56	.59	.55	.51	.52	.49	.46	.42
3.0	.69	.60	.53	.65	.57	.51	.58	.52	.46	.51	.46	.42	.45	.41	.37	.34
4.0	.61	.51	.44	.57	.49	.42	.51	.44	.39	.45	.40	.35	.40	.35	.31	.28
5.0	.54	.44	.37	.51	.42	.36	.45	.38	.33	.40	.34	.30	.36	.31	.27	.24
6.0	.48	.39	.32	.46	.37	.31	.41	.34	.28	.36	.30	.26	.32	.27	.23	.21
7.0	.43	.34	.28	.41	.33	.27	.37	.30	.25	.33	.27	.23	.29	.24	.21	.18
8.0	.39	.31	.25	.37	.29	.24	.34	.27	.22	.30	.24	.20	.27	.22	.18	.16
9.0	.36	.28	.22	.34	.26	.21	.31	.24	.20	.28	.22	.18	.25	.20	.16	.14
10.0	.33	.25	.20	.31	.24	.19	.28	.22	.18	.26	.20	.16	.23	.18	.15	.13



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SEE
 Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:7.630m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	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	.382	.217	.069	.366	.209	.066	.336	.193	.062	.308	.178	.057	.283	.164	.053	
2.0	.328	.180	.055	.314	.173	.053	.287	.159	.049	.261	.147	.046	.238	.135	.042	
3.0	.291	.155	.046	.278	.149	.045	.253	.137	.042	.230	.126	.039	.209	.115	.036	
4.0	.262	.136	.040	.250	.131	.039	.227	.120	.036	.206	.111	.033	.186	.101	.031	
5.0	.238	.121	.035	.227	.116	.034	.206	.107	.032	.187	.099	.029	.169	.090	.027	
6.0	.218	.109	.031	.208	.105	.030	.189	.097	.028	.171	.089	.026	.154	.081	.024	
7.0	.201	.099	.028	.192	.096	.027	.174	.088	.025	.158	.081	.024	.142	.074	.022	
8.0	.186	.091	.026	.178	.088	.025	.162	.081	.023	.147	.074	.021	.132	.068	.020	
9.0	.174	.084	.023	.166	.081	.023	.151	.075	.021	.137	.069	.020	.123	.063	.018	
10.0	.163	.078	.022	.155	.075	.021	.141	.069	.020	.128	.064	.018	.116	.058	.017	

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						Ceiling Cavity Exitance Coefficients (CCEC)									
0.0	.412	.412	.412	.352	.352	.352	.240	.240	.240	.138	.138	.138	.044	.044	.044	
1.0	.409	.379	.352	.350	.325	.303	.239	.224	.210	.138	.130	.122	.044	.042	.039	
2.0	.402	.357	.319	.344	.307	.275	.236	.212	.192	.136	.124	.113	.044	.040	.037	
3.0	.395	.341	.298	.338	.294	.258	.232	.204	.181	.134	.119	.107	.043	.039	.035	
4.0	.387	.329	.284	.332	.284	.246	.228	.198	.174	.132	.116	.103	.043	.038	.034	
5.0	.380	.319	.274	.326	.276	.238	.225	.193	.168	.130	.113	.100	.042	.037	.033	
6.0	.372	.311	.267	.320	.270	.233	.221	.189	.165	.128	.111	.098	.041	.036	.032	
7.0	.366	.305	.262	.314	.264	.229	.217	.185	.162	.126	.109	.096	.041	.036	.032	
8.0	.359	.299	.258	.309	.260	.225	.214	.182	.160	.124	.108	.095	.040	.035	.032	
9.0	.353	.295	.255	.304	.256	.223	.211	.180	.158	.123	.106	.094	.040	.035	.031	
10.0	.347	.291	.253	.299	.252	.221	.208	.178	.157	.121	.105	.094	.039	.034	.031	

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SEE
Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:60%
Test Distance:7.630m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm										
NAME: T8 24W 6000K					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.: SEE					SUR.:			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	15.0	16.2	15.6	16.9	17.7	17.3	18.6	17.9	19.2	20.0
3H	16.3	17.4	17.0	18.1	18.9	20.1	21.2	20.7	21.9	22.7
4H	16.7	17.8	17.4	18.5	19.3	21.6	22.7	22.3	23.4	24.3
6H	17.0	18.0	17.7	18.7	19.6	23.4	24.4	24.1	25.1	26.0
8H	17.0	18.0	17.7	18.7	19.6	24.4	25.4	25.1	26.1	27.0
12H	17.0	18.0	17.7	18.7	19.6	25.5	26.5	26.2	27.2	28.1
4H 2H	16.2	17.3	16.9	18.0	18.8	17.8	18.9	18.5	19.6	20.4
3H	17.8	18.8	18.6	19.5	20.4	20.8	21.7	21.5	22.5	23.4
4H	18.5	19.4	19.3	20.1	21.1	22.5	23.4	23.3	24.2	25.1
6H	19.0	19.8	19.8	20.6	21.5	24.5	25.3	25.3	26.1	27.0
8H	19.2	19.9	20.0	20.7	21.7	25.6	26.3	26.4	27.1	28.1
12H	19.3	20.0	20.1	20.8	21.7	26.9	27.6	27.7	28.4	29.3
8H 4H	19.8	20.5	20.5	21.3	22.2	22.9	23.6	23.6	24.4	25.3
6H	20.8	21.4	21.6	22.2	23.2	25.1	25.7	25.9	26.5	27.5
8H	21.2	21.7	22.0	22.6	23.6	26.4	27.0	27.2	27.8	28.8
12H	21.5	22.0	22.4	22.9	23.9	27.9	28.4	28.8	29.3	30.3
12H 4H	20.2	20.8	20.9	21.6	22.6	22.9	23.5	23.7	24.3	25.3
6H	21.5	22.0	22.3	22.8	23.8	25.2	25.8	26.1	26.6	27.6
8H	22.1	22.6	23.0	23.4	24.5	26.6	27.1	27.5	28.0	29.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.3				

CIE Pub.117, 2556 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 3.3)

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SEE
Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:60%
Test Distance:7.630m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:

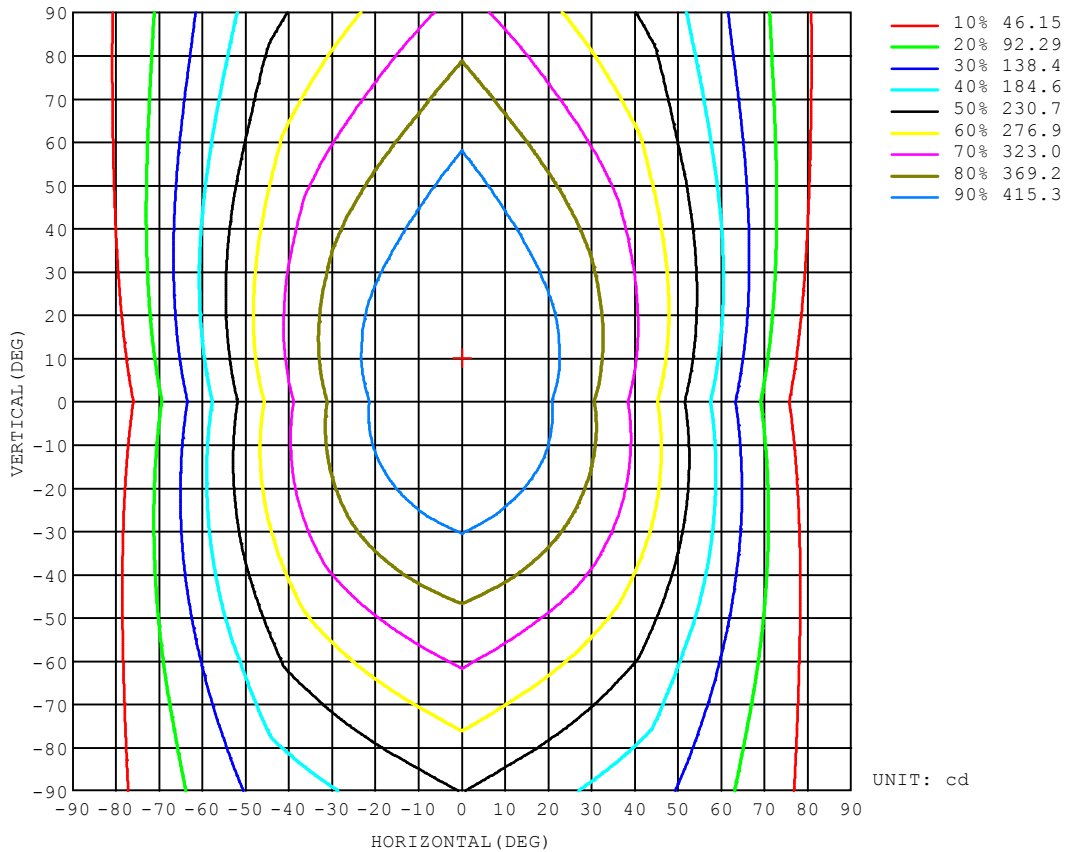
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	45	32	25	43	32	25	41	30	24	17
0.80	54	41	33	52	39	32	48	37	31	22
1.00	61	48	40	59	47	39	54	46	37	27
1.25	68	55	46	65	53	45	60	50	43	32
1.50	73	61	52	70	58	50	64	54	47	35
2.00	80	69	61	77	66	59	69	61	55	41
2.50	85	75	66	81	71	64	73	65	59	44
3.00	89	79	72	84	76	69	76	69	63	47
4.00	94	85	79	89	81	75	80	74	69	51
5.00	97	90	83	92	85	80	82	77	73	54
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SEE
Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:60%
Test Distance:7.630m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:

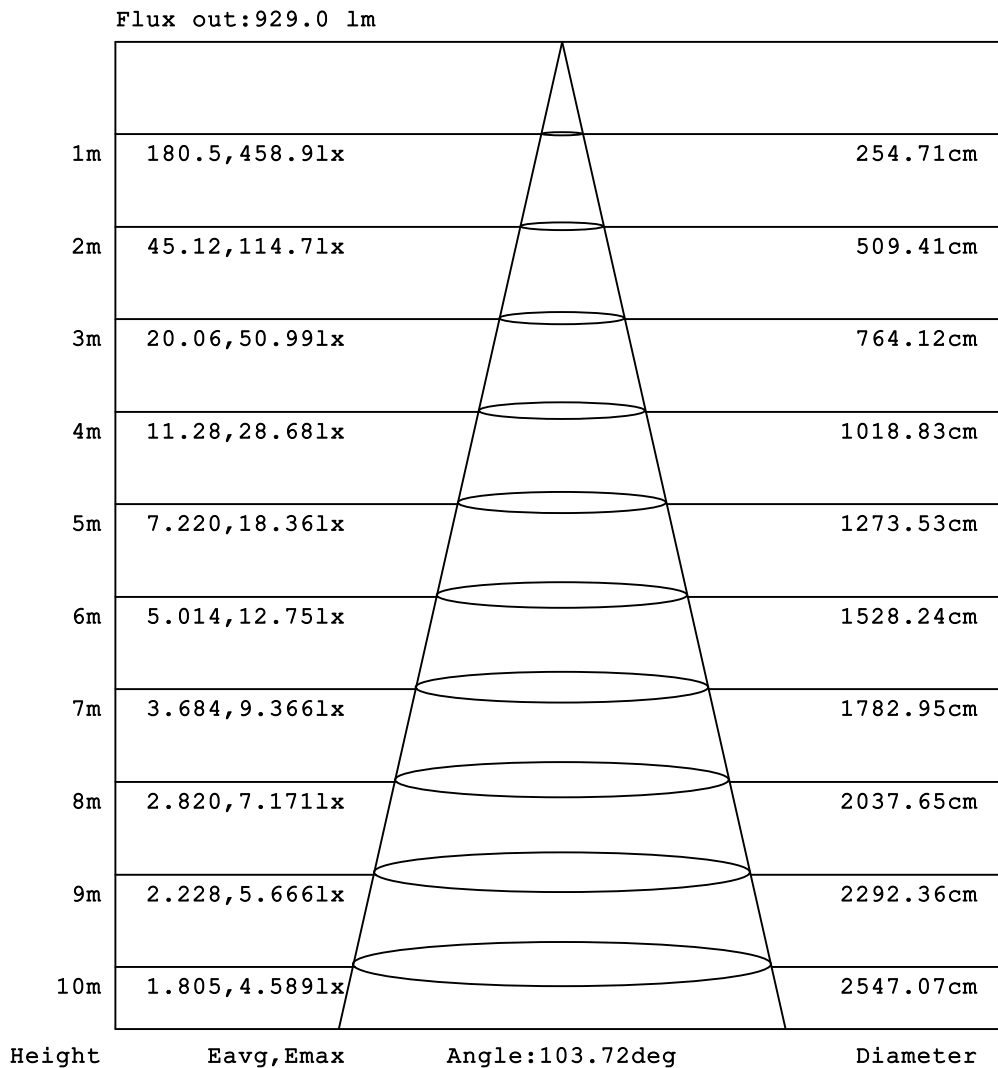


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SEE
 Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:7.630m [K=1.0000]
 Remarks:

AAI Figure

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:



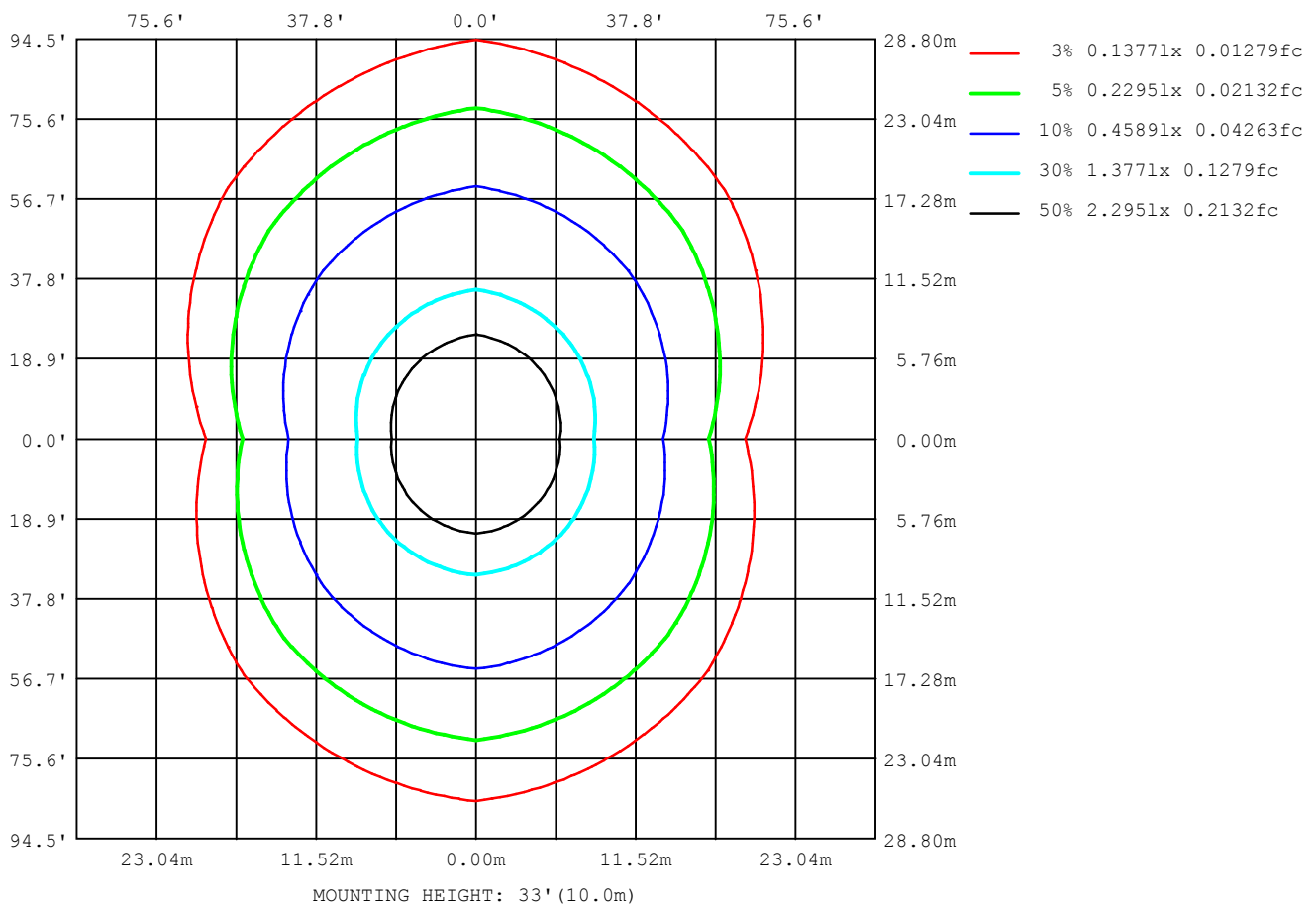
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:SEE
 Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:7.630m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: SEE
 Test Date: 2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
 Humidity: 60%
 Test Distance: 7.630m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:230.76V I:0.102A P:23.16W PF:0.9844 Freq:49.99Hz Lamp Flux:2556.21x1 lm		
NAME: T8 24W 6000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.: SEE	SUR.:	Shielding Angle:

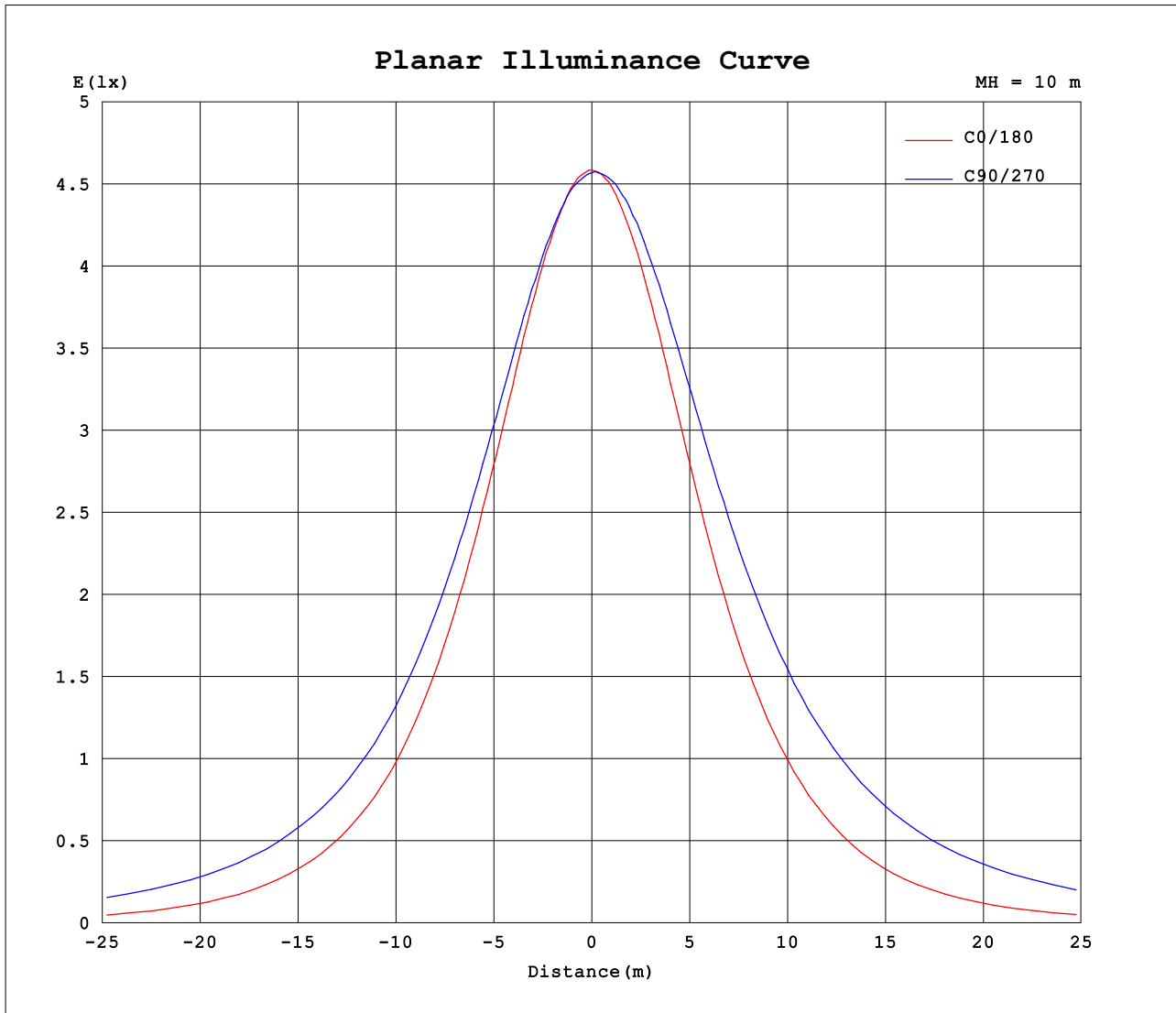
AvgL	cd/m2
L_0~180 (65) av	2968
L_0~180 (75) av	1987
L_0~180 (85) av	761
L_90~270 (65) av	8433
L_90~270 (75) av	12725
L_90~270 (85) av	34469
L_45 (65) av	6328
L_45 (75) av	8893
L_45 (85) av	22901

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:SEE
Test Date:2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity:60%
Test Distance:7.630m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: SEE
Test Date: 2021-02-08

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.366
Humidity: 60%
Test Distance: 7.630m [K=1.0000]
Remarks: