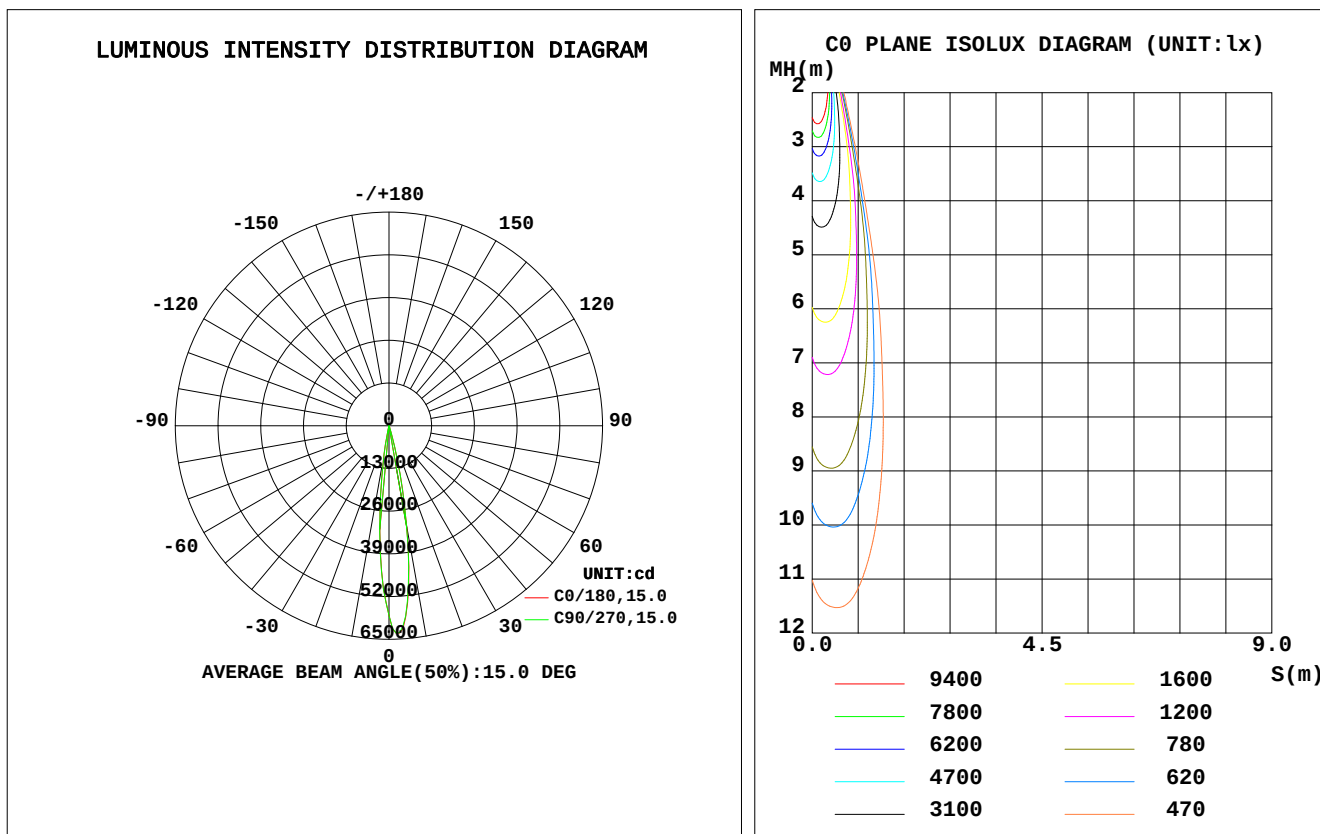


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm		
NAME: LeoFresnel	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 21.65 lm/W			
MODEL	AF250	I _{max} (cd)	67771	S/MH(C0/180)	0.20
NOMINAL POWER(W)	250	LOR(%)	100.0	S/MH(C90/270)	0.20
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	5256.7	η UP, DN(C0-180)	0.1, 66.3
NOMINAL FLUX(lm)	5256.7	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.2, 33.4
LAMPS INSIDE	1	η up(%)	0.3	CIBSE SHR NOM	0.00
TEST VOLTAGE(V)	220	η down(%)	99.7	CIBSE SHR MAX	1.00



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.4824]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3096	3948	3082	1726	877.4	700.5	856.9	1604	0- 10	3441	3441	65.5,65.5
20	71.44	103.4	74.49	47.15	34.12	29.24	31.96	42.81	10- 20	1468	4909	93.4,93.4
30	15.92	17.15	15.37	12.20	10.83	9.885	10.65	12.38	20- 30	116.0	5025	95.6,95.6
40	8.451	8.113	8.065	6.864	6.873	6.472	6.917	7.036	30- 40	57.95	5083	96.7,96.7
50	6.455	6.126	6.252	5.480	5.611	5.108	5.515	5.531	40- 50	49.47	5132	97.6,97.6
60	6.613	5.169	4.980	9.265	4.645	6.278	4.528	8.157	50- 60	50.81	5183	98.6,98.6
70	2.385	3.452	2.349	2.875	1.701	1.776	1.670	2.960	60- 70	44.35	5227	99.4,99.4
80	0.3643	0.8552	0.3974	0.4217	0	0	0	0.2364	70- 80	13.92	5241	99.7,99.7
90	0	0	0	0	0	0	0	0	80- 90	0.6319	5242	99.7,99.7
100	0	0	0	0	0	0	0	0	90-100	0	5242	99.7,99.7
110	0	0	0	0	0	0	0	0	100-110	0	5242	99.7,99.7
120	0	0	0	0	0	0	0	0	110-120	0	5242	99.7,99.7
130	0	0	0	0	0	0	0	0	120-130	0	5242	99.7,99.7
140	0	0	0	0	0.0002	0	0	0	130-140	0.0004	5242	99.7,99.7
150	0	0	0	0.1048	0.2212	0.2713	0.1690	0.0743	140-150	0.1172	5242	99.7,99.7
160	1.435	1.005	1.232	1.726	2.990	2.902	2.394	2.018	150-160	3.584	5246	99.8,99.8
170	3.825	3.461	3.252	3.207	3.824	3.488	2.972	3.354	160-170	8.018	5254	99.9,99.9
180	3.138	3.057	2.785	2.656	3.097	2.920	2.932	2.780	170-180	3.065	5257	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT: lm		

Conical surface Flux(90deg): 5107.8 lm

%lum = 97.2%

%lamp = 97.2%

Conical surface Flux(120deg): 5183 lm

%lum = 98.6%

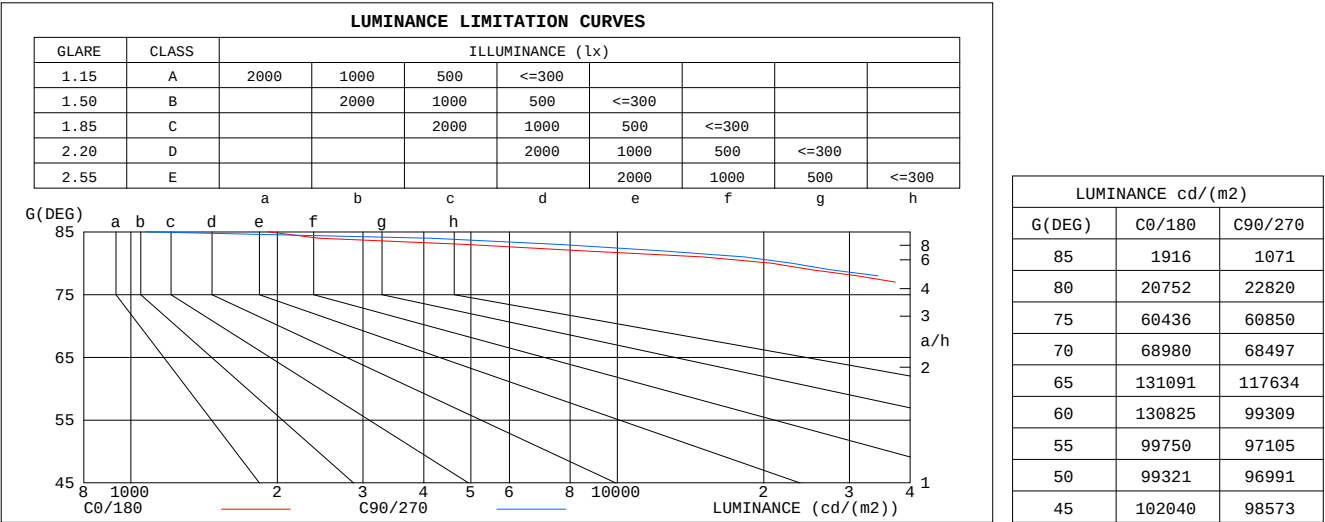
%lamp = 98.6%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.4824]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm		
NAME: LeoFresnel	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-09-22

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.4824]
Remarks:

WEC AND CCEC

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm														
NAME: LeoFresnel					TYPE:LED					WEIGHT:N/A				
SPEC.:N/A					DIM.:					SERIAL No.:N/A				
MFR.:					SUR.:					Shielding Angle:N/A				

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	.119	.068	.021	.112	.064	.020	.100	.057	.018	.089	.051	.016	.078	.045	.015	
2.0	.108	.059	.018	.103	.057	.017	.093	.052	.016	.083	.047	.015	.075	.042	.013	
3.0	.099	.053	.016	.095	.051	.015	.086	.047	.014	.078	.043	.013	.071	.039	.012	
4.0	.091	.047	.014	.087	.046	.013	.080	.043	.013	.074	.040	.012	.068	.037	.011	
5.0	.084	.043	.012	.081	.042	.012	.075	.039	.012	.070	.037	.011	.064	.034	.010	
6.0	.078	.039	.011	.076	.038	.011	.070	.036	.011	.066	.034	.010	.061	.032	.010	
7.0	.073	.036	.010	.071	.035	.010	.066	.034	.010	.062	.032	.009	.059	.030	.009	
8.0	.069	.034	.009	.067	.033	.009	.063	.031	.009	.059	.030	.009	.056	.029	.008	
9.0	.065	.031	.009	.063	.031	.009	.060	.030	.008	.057	.028	.008	.054	.027	.008	
10.0	.061	.029	.008	.060	.029	.008	.057	.028	.008	.054	.027	.008	.052	.026	.007	

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	.193	.193	.193	.165	.165	.165	.112	.112	.112	.065	.065	.065	.021	.021	.021	
1.0	.169	.160	.152	.145	.137	.130	.099	.094	.090	.057	.055	.052	.018	.018	.017	
2.0	.150	.135	.122	.128	.116	.106	.088	.080	.074	.051	.047	.043	.016	.015	.014	
3.0	.134	.115	.101	.115	.099	.087	.079	.069	.061	.045	.040	.036	.015	.013	.012	
4.0	.120	.100	.084	.103	.086	.073	.071	.060	.051	.041	.035	.030	.013	.011	.010	
5.0	.108	.087	.071	.093	.075	.062	.064	.053	.044	.037	.031	.026	.012	.010	.009	
6.0	.099	.077	.061	.085	.066	.053	.058	.046	.037	.034	.027	.022	.011	.009	.007	
7.0	.090	.068	.053	.078	.059	.046	.054	.041	.032	.031	.024	.019	.010	.008	.006	
8.0	.083	.061	.046	.071	.053	.040	.049	.037	.028	.029	.022	.017	.009	.007	.006	
9.0	.077	.055	.040	.066	.048	.035	.046	.034	.025	.027	.020	.015	.009	.006	.005	
10.0	.071	.050	.036	.061	.043	.031	.043	.031	.022	.025	.018	.013	.008	.006	.004	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.4824]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm											
NAME: LeoFresnel					TYPE:LED			WEIGHT:N/A			
SPEC.:N/A					DIM.:			SERIAL No.:N/A			
MFR.:					SUR.:			Shielding Angle:N/A			
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	2H	20.6	21.1	20.8	21.3	21.4	20.4	20.9	20.6	21.0	21.2
	3H	22.1	22.5	22.3	22.7	22.9	22.0	22.5	22.2	22.6	22.8
	4H	22.4	22.8	22.6	23.0	23.2	22.3	22.8	22.6	23.0	23.2
	6H	22.4	22.8	22.6	23.0	23.3	22.4	22.8	22.6	23.0	23.3
	8H	22.3	22.8	22.6	23.0	23.3	22.3	22.8	22.6	23.0	23.2
	12H	22.3	22.7	22.6	23.0	23.2	22.3	22.7	22.6	23.0	23.2
4H	2H	21.6	22.1	21.9	22.3	22.5	21.5	22.0	21.8	22.2	22.4
	3H	23.1	23.5	23.4	23.8	24.1	23.1	23.5	23.4	23.8	24.1
	4H	23.4	23.8	23.8	24.1	24.4	23.5	23.9	23.8	24.2	24.5
	6H	23.5	23.8	23.8	24.2	24.5	23.6	23.9	23.9	24.2	24.6
	8H	23.4	23.8	23.8	24.1	24.5	23.5	23.8	23.9	24.2	24.5
	12H	23.4	23.7	23.8	24.0	24.4	23.5	23.8	23.9	24.1	24.5
8H	4H	23.6	23.9	24.0	24.2	24.6	23.6	23.9	24.0	24.3	24.7
	6H	23.6	23.9	24.1	24.3	24.7	23.7	24.0	24.1	24.4	24.8
	8H	23.6	23.8	24.0	24.3	24.7	23.7	23.9	24.1	24.3	24.8
	12H	23.5	23.7	24.0	24.2	24.7	23.6	23.8	24.1	24.3	24.7
12H	4H	23.5	23.8	23.9	24.2	24.6	23.6	23.9	24.0	24.2	24.6
	6H	23.6	23.9	24.1	24.3	24.7	23.7	23.9	24.1	24.3	24.8
	8H	23.6	23.8	24.0	24.2	24.7	23.6	23.8	24.1	24.3	24.8
Variations with the observer position at spacings:											
S = 1.0H	+ 1.7 / - 1.0					+ 1.5 / - 0.9					
1.5H	+ 0.7 / - 1.0					+ 0.6 / - 1.1					
2.0H	+ 3.0 / - 1.5					+ 2.8 / - 1.8					

CIE Pub.117, 5257 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 5.8$)

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.4824]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm		
NAME: LeoFresnel	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

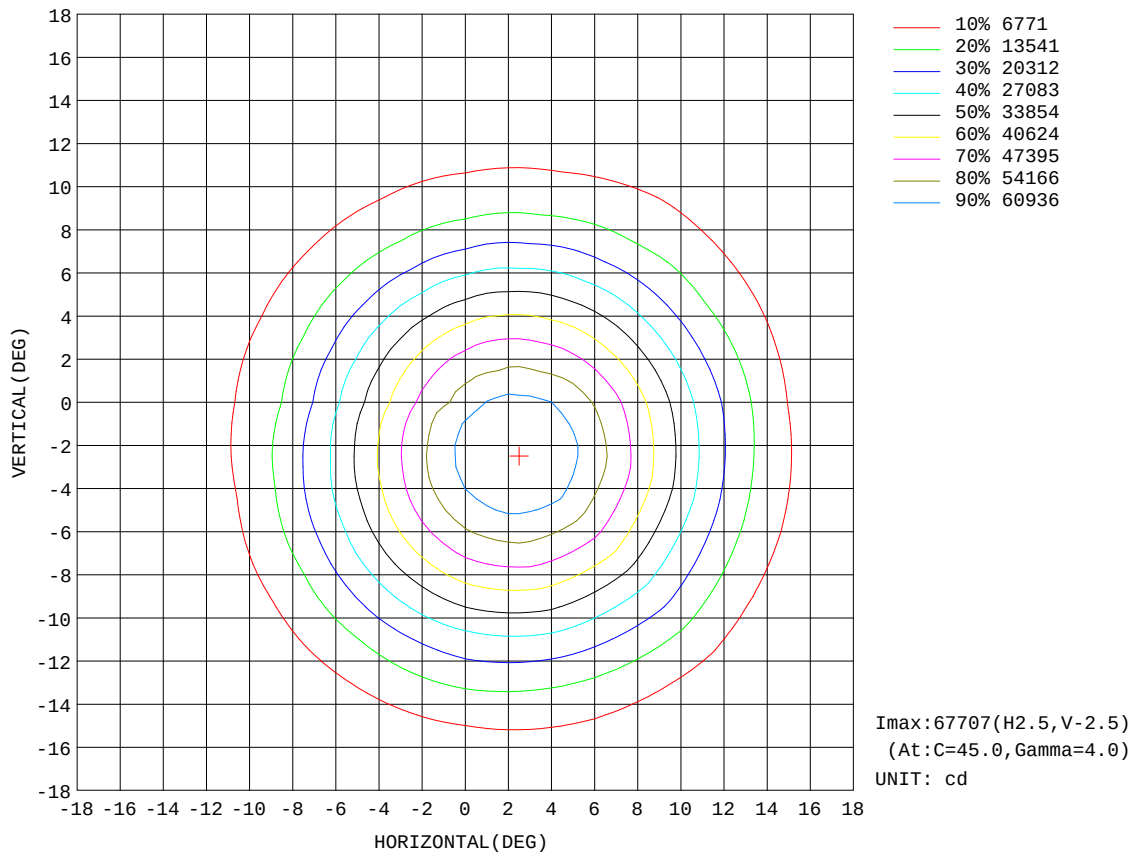
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	80	89	83	80	88	83	80	77
0.80	97	91	88	96	91	88	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	87
1.25	104	99	96	103	99	96	101	98	95	91
1.50	107	102	99	106	102	99	103	100	98	93
2.00	109	105	102	108	104	101	105	102	100	95
2.50	111	107	104	109	106	103	106	103	101	96
3.00	112	109	106	110	107	105	107	105	103	97
4.00	114	112	109	112	110	108	108	107	105	98
5.00	115	113	112	113	111	110	109	108	107	99
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.4824]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm		
NAME: LeoFresnel	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

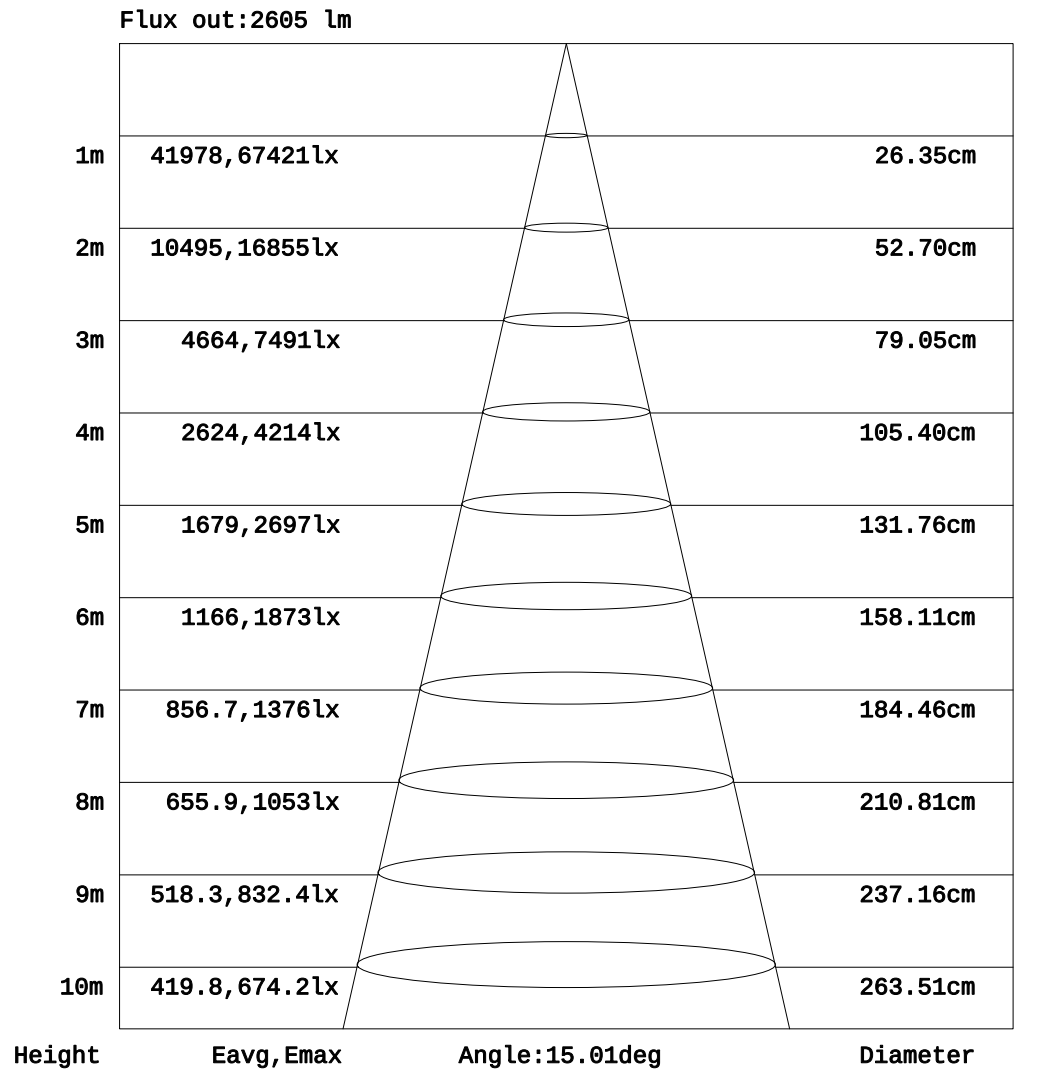


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-09-22

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.4824]
Remarks:

AAI Figure

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm		
NAME: LeoFresnel	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

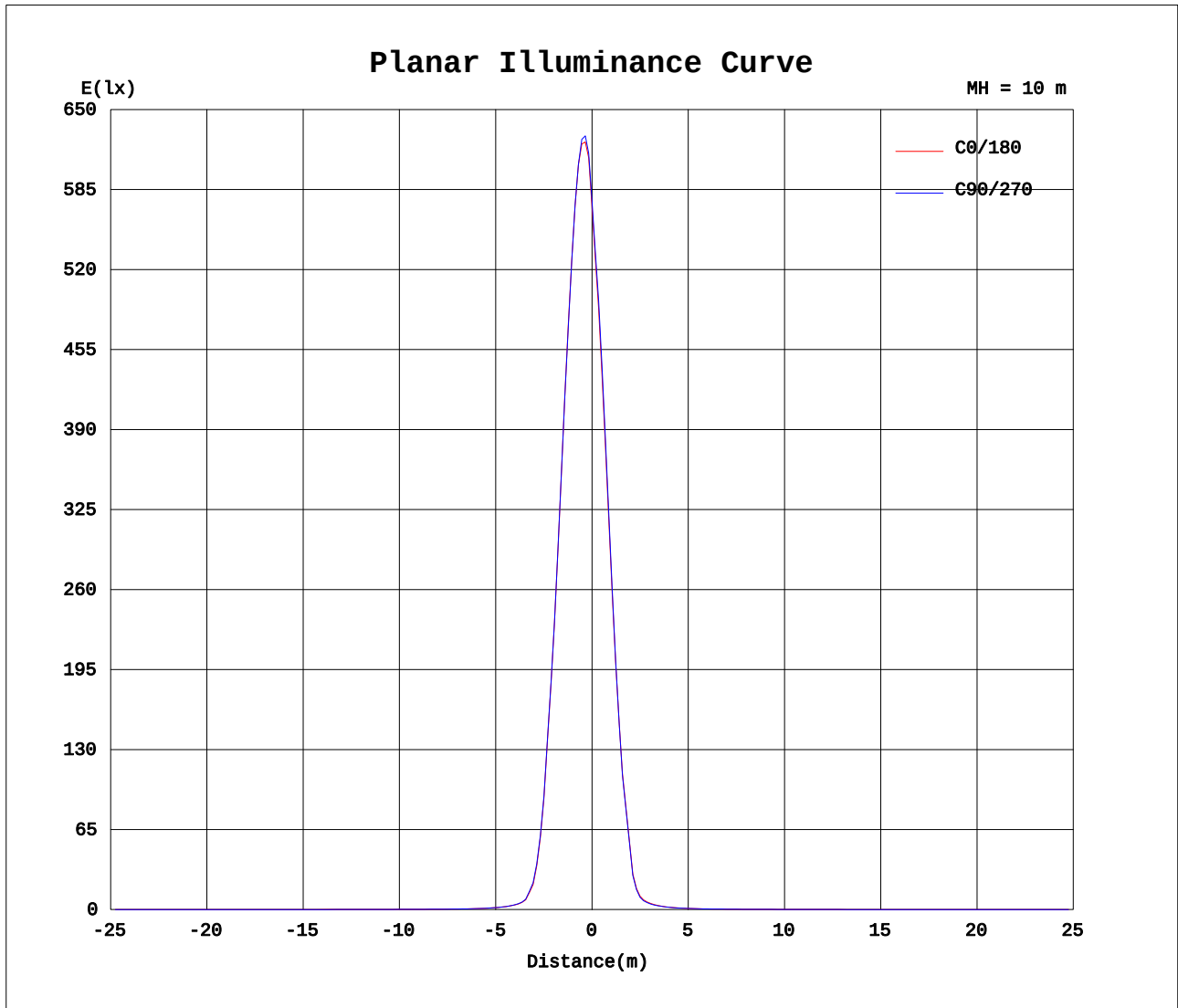


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.4824]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.9DEG
Operators: Zero huang
Test Date: 2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-R5000_V2 SYSTEM V2.0.366
Humidity: 60%
Test Distance: 26.000m [K=1.4824]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.06V I:1.1572A P:242.86W PF:0.9537 Freq:50.01Hz Lamp Flux:5256.7x1 lm																		
NAME: LeoFresnel									TYPE:LED					WEIGHT:N/A				
SPEC.:N/A									DIM.:					SERIAL No.:N/A				
MFR.:									SUR.:					Shielding Angle:N/A				

Table--1

UNIT: ×10cd

C (DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771	5771			
5	5848	6391	6593	6345	5810	5091	4269	3654	3230	2981	2906	2972	3253	3720	4235	4955			
10	3096	3673	3948	3644	3082	2423	1726	1137	877	742	701	725	857	1100	1604	2274			
15	664	945	1127	946	677	428	277	164	90.5	77.6	72.3	74.4	81.8	108	187	457			
20	71.4	90.0	103	92.1	74.5	60.4	47.2	39.2	34.1	30.4	29.2	29.5	32.0	36.2	42.8	53.6			
25	29.4	32.4	33.8	32.1	29.2	25.7	21.5	18.9	17.4	15.9	15.6	15.8	16.7	18.5	20.8	24.7			
30	15.9	16.8	17.1	16.5	15.4	13.9	12.2	11.3	10.8	9.99	9.89	10.0	10.6	11.4	12.4	14.0			
35	10.6	10.7	10.7	10.4	10.2	9.18	8.38	8.09	8.11	7.40	7.45	7.57	8.09	8.22	8.71	9.37			
40	8.45	8.12	8.11	7.90	8.06	7.32	6.86	6.78	6.87	6.35	6.47	6.56	6.92	6.88	7.04	7.34			
45	7.29	6.99	6.89	6.82	6.99	6.40	6.08	6.05	6.24	5.76	5.74	5.89	6.16	6.12	6.18	6.43			
50	6.45	6.23	6.13	6.06	6.25	5.74	5.48	5.48	5.61	5.20	5.11	5.24	5.52	5.52	5.53	5.77			
55	5.78	5.66	5.50	5.48	5.59	5.26	4.91	4.88	4.90	4.85	4.75	4.86	4.80	5.08	4.98	5.27			
60	6.61	5.45	5.17	5.12	4.98	8.00	9.27	6.71	4.65	6.24	6.28	5.99	4.53	6.64	8.16	9.53			
65	5.60	6.51	6.06	5.94	4.99	5.85	4.36	3.43	2.56	2.97	3.06	3.13	2.52	3.30	3.85	5.09			
70	2.39	3.24	3.45	3.39	2.35	3.63	2.87	2.66	1.70	1.94	1.78	1.76	1.67	2.62	2.96	3.62			
75	1.58	1.73	2.01	2.08	1.58	1.49	1.20	1.02	0.58	0.79	0.79	0.79	0.47	0.99	1.10	1.31			
80	0.36	0.77	0.86	0.81	0.40	0.62	0.42	0.19	0.00	0.00	0.00	0.00	0.00	0.07	0.24	0.42			
85	0.02	0.03	0.05	0.04	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
105	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.02	0.03	0.02	0.01	0.00	0.01			
150	0.00	0.00	0.00	0.00	0.00	0.01	0.10	0.18	0.22	0.26	0.27	0.24	0.17	0.13	0.07	0.05			
155	0.45	0.36	0.24	0.32	0.38	0.43	0.70	0.75	1.32	1.38	1.36	1.29	1.01	0.66	0.49	0.51			
160	1.43	1.25	1.01	1.19	1.23	1.32	1.73	1.72	2.99	3.01	2.90	2.89	2.39	2.13	2.02	1.75			
165	2.81	2.64	2.40	2.63	2.44	2.26	2.82	2.96	4.04	4.01	3.83	3.69	3.10	3.07	3.26	2.94			
170	3.83	3.63	3.46	3.62	3.25	2.82	3.21	3.33	3.82	3.78	3.49	3.34	2.97	2.89	3.35	3.11			
175	3.72	3.62	3.65	3.77	3.49	3.07	3.04	2.82	2.89	2.85	2.82	2.79	2.60	2.69	2.89	2.75			
180	3.14	2.88	3.06	2.93	2.79	2.79	2.66	2.75	3.10	3.13	2.92	3.07	2.93	2.79	2.78	2.67			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-22

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.4824]
 Remarks: