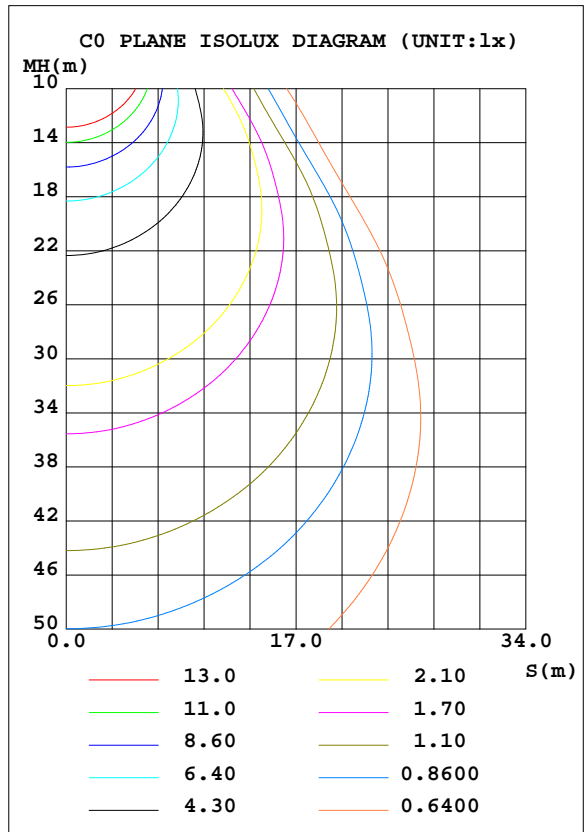
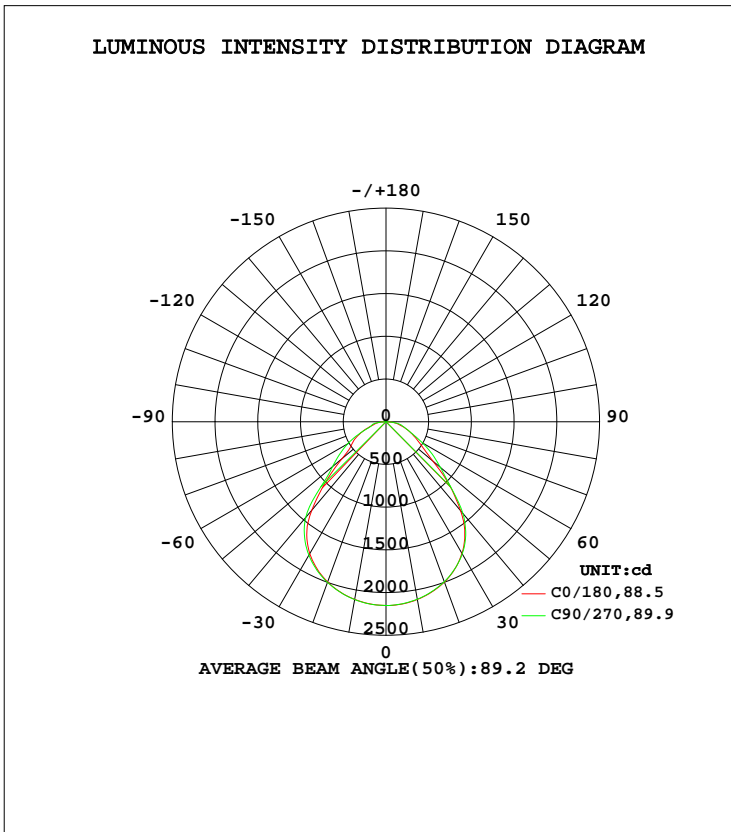


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 120.64 lm/W			
MODEL	HR-PLF060-040	I _{max} (cd)	2151	S/MH(C0/180)	1.23
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	4668.0	η UP, DN(C0-180)	0.1,49.7
NOMINAL FLUX(lm)	4668.01	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.1,50.1
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	99.8	CIBSE SHR MAX	1.30



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:William
 Test Date:2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:65.7%
 Test Distance:26.000m [K=1.3952]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2112	2111	2109	2109	2112	2113	2113	2113	0- 10	203.4	203.4	4.36,4.36
20	1998	1993	1993	1991	1997	1998	2002	1999	10- 20	582.2	785.6	16.8,16.8
30	1779	1776	1785	1780	1784	1794	1805	1794	20- 30	877.0	1663	35.6,35.6
40	1360	1389	1398	1368	1351	1406	1461	1431	30- 40	1011	2673	57.3,57.3
50	717.0	827.3	831.7	736.8	670.3	835.3	818.3	773.7	40- 50	815.8	3489	74.7,74.7
60	420.1	482.3	489.7	462.6	433.2	476.4	520.8	447.9	50- 60	535.0	4024	86.2,86.2
70	258.5	254.5	262.0	270.5	250.8	237.8	232.7	292.4	60- 70	350.5	4375	93.7,93.7
80	135.2	152.0	156.2	133.1	125.4	156.0	151.4	146.4	70- 80	210.0	4585	98.2,98.2
90	0.3920	0.6436	0.4660	0.3714	0.2958	0.2941	0.4415	0.4405	80- 90	74.72	4659	99.8,99.8
100	0.1481	0.1480	0.1479	0.1478	0.2962	0.2223	0.2957	0.2955	90-100	0.2574	4660	99.8,99.8
110	0.1481	0.1480	0.1479	0.1478	0.5943	0.5930	0.5925	0.5189	100-110	0.3081	4660	99.8,99.8
120	0.1481	0.1480	0.1479	0.1478	1.407	1.184	1.333	1.331	110-120	0.5233	4660	99.8,99.8
130	1.333	1.110	1.326	1.182	2.148	1.780	1.702	1.921	120-130	0.9256	4661	99.9,99.9
140	2.441	1.549	2.438	1.547	3.110	2.294	2.810	2.660	130-140	1.476	4663	99.9,99.9
150	3.330	2.809	3.549	3.394	3.629	3.265	3.475	3.475	140-150	1.793	4665	99.9,99.9
160	3.700	3.551	3.770	3.694	4.371	4.293	4.363	4.213	150-160	1.748	4666	100,100
170	4.366	4.585	4.503	4.135	4.741	4.735	4.657	4.580	160-170	1.183	4668	100,100
180	4.813	4.737	4.657	4.433	4.739	4.883	4.806	4.580	170-180	0.4447	4668	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 3126.5 lm

%lum = 67.0%
%lamp = 67.0%

Conical surface Flux(120deg): 4024.1 lm

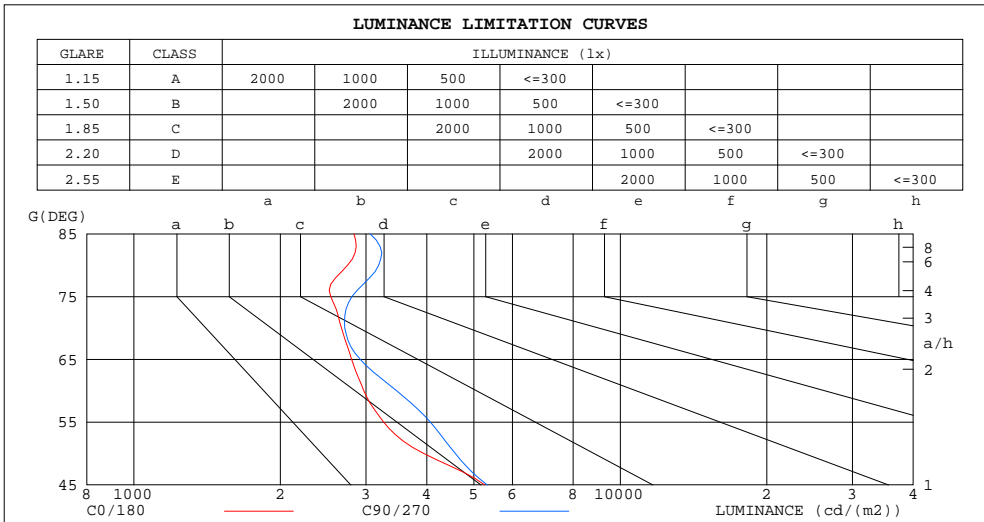
%lum = 86.2%
%lamp = 86.2%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.5DEG
Operators:William
Test Date:2019-04-01

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:65.7%
Test Distance:26.000m [K=1.3952]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2834	3061
80	2751	3184
75	2540	2806
70	2671	2712
65	2801	2920
60	2969	3467
55	3261	4070
50	3942	4580
45	5259	5325

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:William
 Test Date:2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:65.7%
 Test Distance:26.000m [K=1.3952]
 Remarks:

WEC AND CCEC

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.273	.155	.049	.266	.152	.048	.253	.145	.046	.241	.139	.045	.229	.133	.043	
2.0	.258	.141	.043	.251	.139	.043	.240	.133	.041	.229	.129	.040	.220	.124	.039	
3.0	.240	.128	.038	.235	.126	.038	.225	.122	.037	.216	.118	.036	.207	.115	.035	
4.0	.224	.116	.034	.219	.115	.034	.210	.112	.033	.202	.109	.033	.194	.106	.032	
5.0	.209	.106	.031	.205	.105	.031	.197	.103	.030	.190	.100	.030	.183	.098	.029	
6.0	.195	.098	.028	.192	.097	.028	.185	.095	.028	.178	.093	.027	.172	.091	.027	
7.0	.183	.091	.026	.180	.090	.026	.174	.088	.025	.168	.086	.025	.162	.084	.025	
8.0	.172	.084	.024	.169	.083	.024	.164	.082	.023	.159	.080	.023	.154	.079	.023	
9.0	.163	.079	.022	.160	.078	.022	.155	.077	.022	.150	.075	.022	.146	.074	.021	
10.0	.154	.074	.020	.151	.073	.020	.147	.072	.020	.142	.071	.020	.138	.070	.020	

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	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.179	.158	.139	.153	.136	.119	.105	.093	.083	.060	.054	.048	.019	.017	.016	
2.0	.169	.134	.104	.145	.115	.090	.099	.080	.062	.057	.046	.037	.018	.015	.012	
3.0	.160	.116	.080	.137	.100	.069	.094	.069	.049	.054	.040	.029	.018	.013	.009	
4.0	.152	.102	.064	.131	.088	.055	.090	.061	.039	.052	.036	.023	.017	.012	.008	
5.0	.145	.091	.052	.124	.079	.045	.086	.055	.032	.050	.032	.019	.016	.011	.006	
6.0	.138	.083	.043	.118	.072	.038	.082	.050	.027	.047	.029	.016	.015	.010	.005	
7.0	.131	.076	.037	.113	.066	.032	.078	.046	.023	.045	.027	.014	.015	.009	.004	
8.0	.125	.070	.032	.108	.061	.028	.074	.042	.020	.043	.025	.012	.014	.008	.004	
9.0	.119	.065	.028	.103	.056	.024	.071	.040	.017	.041	.023	.010	.013	.008	.003	
10.0	.114	.061	.025	.098	.053	.022	.068	.037	.015	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:William
 Test Date:2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:65.7%
 Test Distance:26.000m [K=1.3952]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	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	16.8	18.1	17.0	18.3	18.5	16.7	18.0	16.9	18.2	18.4
3H	17.7	19.0	18.0	19.2	19.5	17.6	18.9	17.9	19.1	19.3
4H	18.2	19.4	18.5	19.6	19.9	18.1	19.3	18.4	19.5	19.8
6H	18.6	19.8	19.0	20.0	20.3	18.6	19.7	18.9	20.0	20.3
8H	18.8	19.9	19.2	20.2	20.5	18.8	19.9	19.2	20.2	20.5
12H	19.0	20.0	19.3	20.3	20.6	19.0	20.1	19.4	20.4	20.7
4H 2H	17.1	18.3	17.4	18.5	18.8	17.0	18.2	17.3	18.5	18.7
3H	18.3	19.4	18.7	19.7	20.0	18.2	19.2	18.5	19.5	19.8
4H	19.0	19.9	19.3	20.2	20.6	18.8	19.7	19.2	20.1	20.4
6H	19.6	20.4	20.0	20.8	21.1	19.4	20.3	19.8	20.6	21.0
8H	19.9	20.6	20.3	21.0	21.4	19.8	20.6	20.2	20.9	21.3
12H	20.1	20.8	20.5	21.2	21.6	20.0	20.7	20.4	21.1	21.5
8H 4H	19.2	20.0	19.6	20.4	20.8	19.1	19.8	19.5	20.2	20.6
6H	20.1	20.7	20.5	21.1	21.5	19.9	20.5	20.3	20.9	21.4
8H	20.4	21.0	20.9	21.5	21.9	20.3	20.9	20.8	21.3	21.8
12H	20.8	21.3	21.3	21.7	22.2	20.7	21.2	21.2	21.6	22.1
12H 4H	19.2	20.0	19.7	20.4	20.8	19.1	19.8	19.5	20.2	20.6
6H	20.1	20.7	20.6	21.1	21.6	20.0	20.6	20.5	21.0	21.4
8H	20.6	21.1	21.1	21.5	22.0	20.5	21.0	21.0	21.4	21.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.4 / - 0.4					+ 0.3 / - 0.4				
1.5H	+ 0.1 / - 0.5					+ 0.2 / - 0.2				
2.0H	+ 0.5 / - 0.7					+ 0.6 / - 0.4				

CIE Pub.117, 4668 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 5.4)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:William
 Test Date:2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:65.7%
 Test Distance:26.000m [K=1.3952]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A

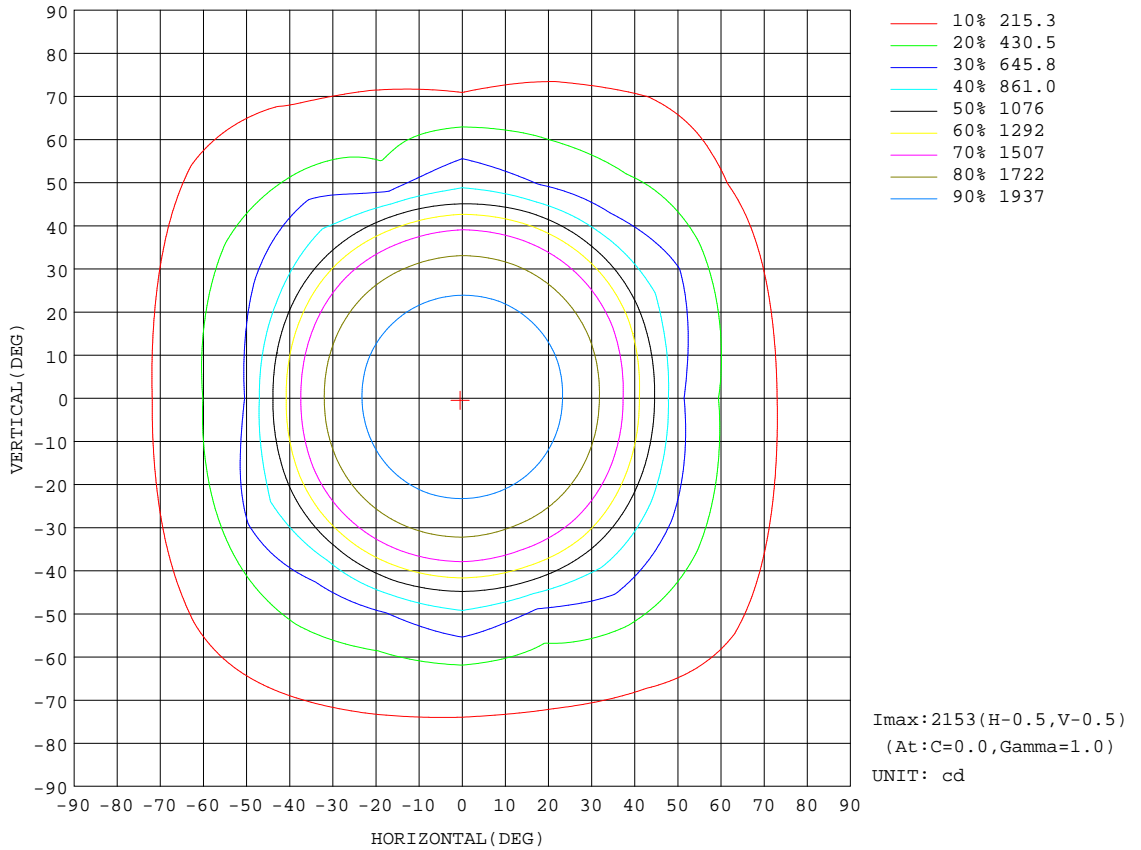
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	65	55	49	64	55	48	63	54	48	43
0.80	75	65	58	74	64	58	72	63	58	52
1.00	82	73	67	81	72	66	79	73	66	59
1.25	89	80	74	87	79	73	85	78	73	66
1.50	93	85	79	92	84	78	89	82	77	71
2.00	99	92	86	97	91	85	94	88	84	77
2.50	102	96	90	100	94	89	97	92	88	80
3.00	105	99	94	103	98	93	99	95	91	83
4.00	108	103	99	106	102	98	102	98	95	87
5.00	110	106	103	108	104	101	104	101	98	89
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:24.5DEG
 Operators:William
 Test Date:2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:65.7%
 Test Distance:26.000m [K=1.3952]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.0lx1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A

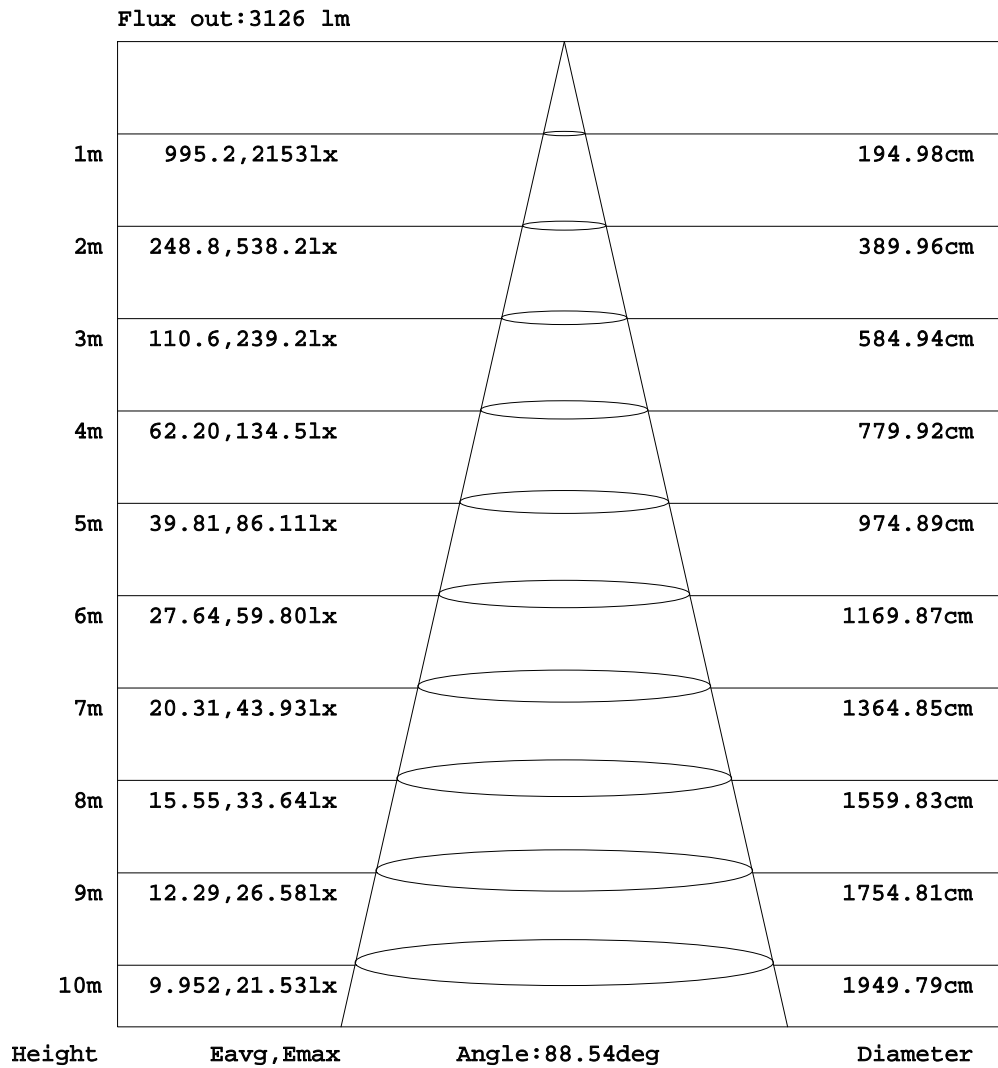


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.5DEG
 Operators: William
 Test Date: 2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity: 65.7%
 Test Distance: 26.000m [K=1.3952]
 Remarks:

AAI Figure

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A

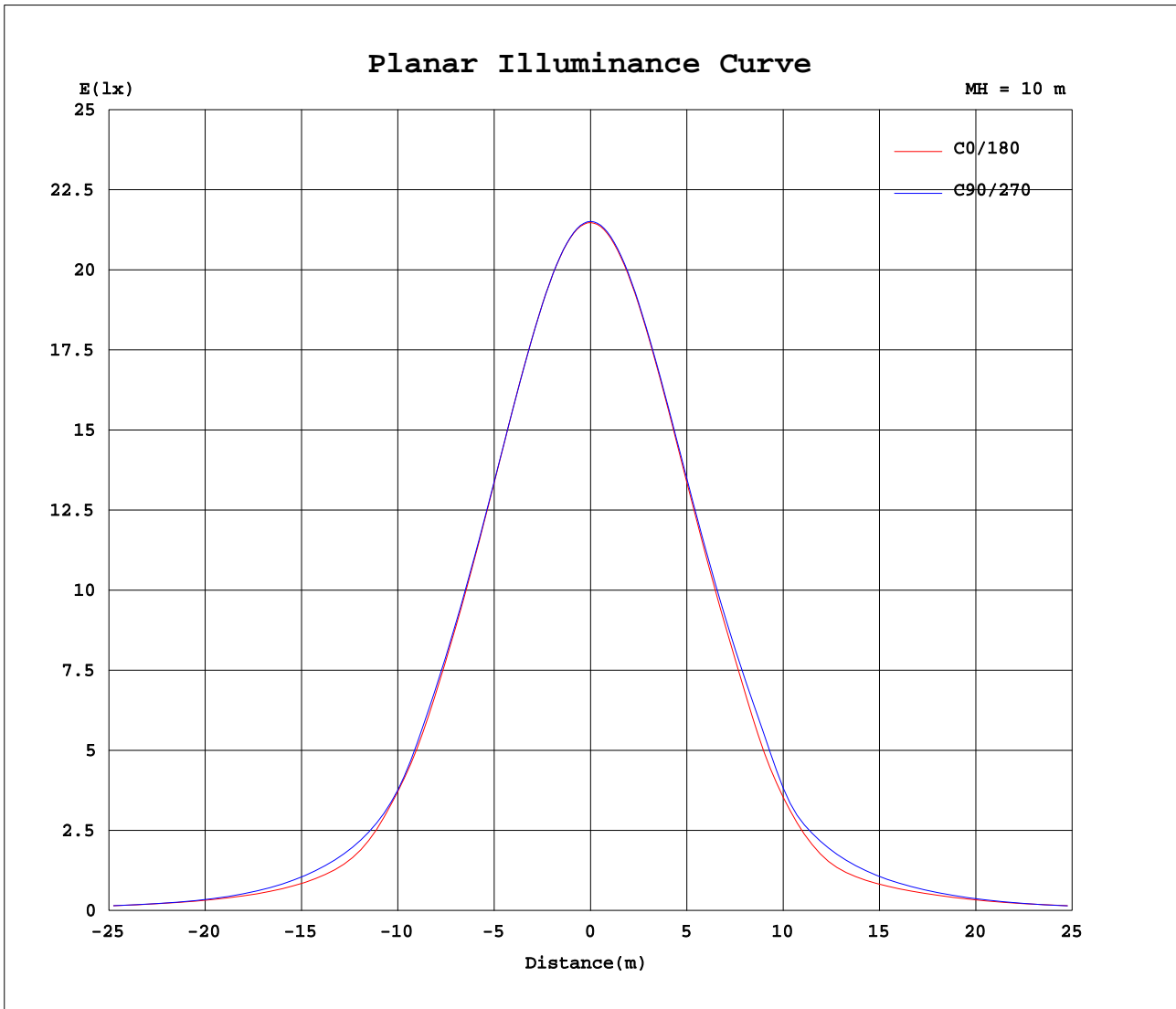


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.5DEG
 Operators: William
 Test Date: 2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity: 65.7%
 Test Distance: 26.000m [K=1.3952]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.5DEG
Operators: William
Test Date: 2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity: 65.7%
Test Distance: 26.000m [K=1.3952]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.09V I:0.1808A P:38.695W PF:0.9723 Freq:50.01Hz Lamp Flux:4668.01x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.: 深圳市海润光电有限公司	SUR.:0.3*0.3*3.14	Shielding Angle:N/A

Table--1

UNIT: cd

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	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150	2150			
5	2142	2141	2141	2140	2140	2140	2140	2140	2141	2141	2142	2142	2141	2142	2142	2141			
10	2112	2112	2111	2111	2109	2109	2109	2109	2112	2112	2113	2113	2113	2113	2113	2113			
15	2065	2064	2062	2061	2060	2060	2059	2060	2064	2065	2065	2065	2066	2067	2066	2065			
20	1998	1996	1993	1993	1993	1994	1991	1990	1997	1999	1998	2000	2002	2002	1999	1998			
25	1904	1901	1899	1901	1903	1904	1899	1899	1905	1909	1909	1913	1916	1916	1911	1908			
30	1779	1777	1776	1776	1785	1785	1780	1780	1784	1790	1794	1797	1805	1803	1794	1788			
35	1609	1612	1613	1610	1627	1626	1620	1620	1618	1627	1640	1648	1661	1657	1643	1631			
40	1360	1373	1389	1375	1398	1381	1368	1374	1351	1374	1406	1426	1461	1449	1431	1413			
45	1052	1051	1059	1049	1064	1050	1008	1029	1002	1014	1034	1049	1082	1095	1073	1077			
50	717	813	827	703	832	740	737	837	670	760	835	656	818	733	774	850			
55	529	622	650	508	659	547	569	667	504	609	672	470	661	542	561	695			
60	420	474	482	411	490	442	463	465	433	486	476	398	521	456	448	517			
65	335	359	342	331	349	351	351	315	342	367	322	364	365	390	363	346			
70	259	285	254	261	262	282	271	243	251	276	238	278	233	306	292	243			
75	186	213	204	187	205	204	201	203	168	208	210	163	173	208	222	191			
80	135	149	152	129	156	132	133	136	125	140	156	114	151	141	146	151			
85	69.9	75.9	73.8	70.0	75.4	65.5	60.2	63.2	62.7	67.6	61.7	71.9	73.2	72.9	68.9	76.1			
90	0.39	0.49	0.64	0.55	0.47	0.46	0.37	0.30	0.30	0.29	0.29	0.30	0.44	0.37	0.44	0.59			
95	0.30	0.22	0.22	0.15	0.30	0.22	0.22	0.15	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22			
100	0.15	0.22	0.15	0.15	0.15	0.15	0.15	0.15	0.30	0.22	0.22	0.37	0.30	0.30	0.30	0.22			
105	0.15	0.22	0.15	0.15	0.15	0.15	0.15	0.15	0.52	0.44	0.37	0.37	0.52	0.45	0.37	0.44			
110	0.15	0.22	0.15	0.15	0.15	0.15	0.15	0.15	0.59	0.59	0.59	0.59	0.59	0.59	0.52	0.67			
115	0.15	0.22	0.15	0.15	0.15	0.15	0.15	0.15	1.11	0.82	0.74	0.82	0.96	0.81	0.81	0.89			
120	0.15	0.22	0.15	0.15	0.15	0.15	0.15	0.15	1.41	1.26	1.18	1.18	1.33	0.96	1.33	1.33			
125	0.52	0.44	0.37	0.44	0.88	0.22	0.37	0.81	1.56	1.70	1.48	1.18	1.55	1.11	1.63	1.63			
130	1.33	1.26	1.11	1.26	1.33	1.03	1.18	1.33	2.15	2.07	1.78	1.41	1.70	1.55	1.92	2.07			
135	1.55	1.48	1.18	1.33	1.77	1.26	1.18	1.55	2.59	2.37	2.07	2.15	2.59	2.29	2.22	2.51			
140	2.44	2.29	1.55	2.37	2.44	2.14	1.55	2.43	3.11	2.74	2.29	2.74	2.81	2.88	2.66	2.81			
145	2.67	2.51	2.37	2.73	2.81	2.51	2.44	2.51	3.33	2.89	2.74	3.11	3.25	2.96	3.18	3.32			
150	3.33	3.55	2.81	3.25	3.55	3.33	3.39	2.88	3.63	3.33	3.27	3.77	3.47	3.47	3.47	3.91			
155	3.63	3.77	3.55	3.55	3.77	3.70	3.77	3.69	4.08	4.00	3.78	4.07	3.70	4.07	3.77	4.21			
160	3.70	3.77	3.55	3.62	3.77	3.70	3.69	3.77	4.37	4.37	4.29	4.22	4.36	4.21	4.21	4.21			
165	3.85	3.92	3.77	3.84	4.06	3.84	3.69	3.91	4.59	4.44	4.44	4.36	4.51	4.66	4.51	4.36			
170	4.37	4.51	4.59	4.58	4.50	4.58	4.13	4.43	4.74	4.81	4.73	4.66	4.66	4.66	4.58	4.43			
175	4.66	4.74	4.73	4.66	4.66	4.58	4.28	4.80	4.81	4.88	4.88	4.88	4.73	4.66	4.58	4.43			
180	4.81	4.88	4.74	4.81	4.66	4.58	4.43	4.80	4.74	4.81	4.88	4.81	4.81	4.66	4.58	4.43			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:William
 Test Date:2019-04-01

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:65.7%
 Test Distance:26.000m [K=1.3952]
 Remarks: