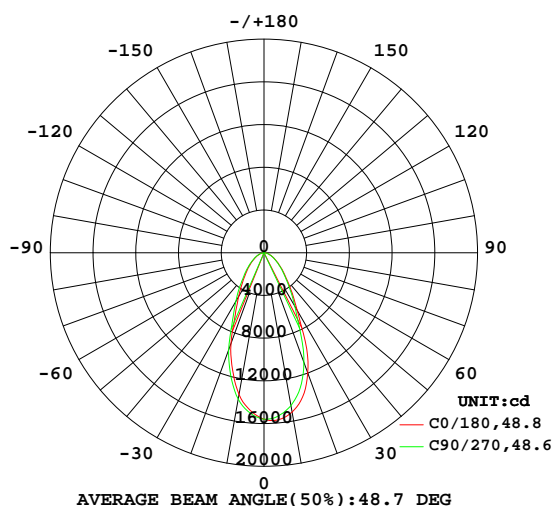


LUMINAIRE PHOTOMETRIC TEST REPORT

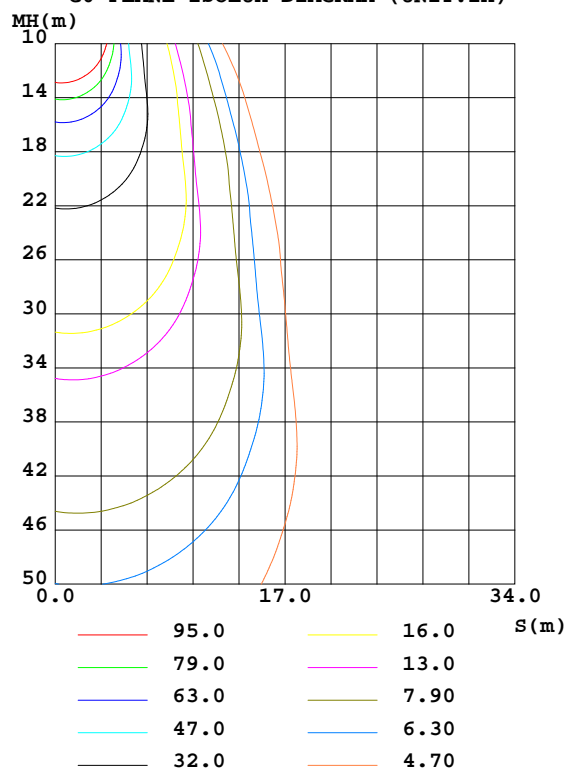
Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 153.21 lm/W			
MODEL	HB-100W-60D	I _{max} (cd)	15734	S/MH(C0/180)	0.71
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	0.75
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	15454	η UP,DN(C0-180)	0.1,51.8
NOMINAL FLUX(lm)	15454.2	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.1,47.9
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	99.8	CIBSE SHR MAX	0.80

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-09-12

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-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	1515	1502	1455	1399	1347	1338	1392	1474	0- 10	1424	1424	9.22,9.22
20	1197	1195	1094	985.9	905.6	887.0	969.7	1106	10- 20	3495	4920	31.8,31.8
30	621.3	616.0	577.6	512.6	478.3	484.8	530.3	566.5	20- 30	3513	8433	54.6,54.6
40	338.1	339.8	323.0	294.8	277.3	284.8	302.0	323.5	30- 40	2604	11037	71.4,71.4
50	199.3	200.7	190.8	176.6	167.6	173.3	181.0	193.4	40- 50	1859	12896	83.4,83.4
60	114.2	115.3	109.9	102.6	97.56	100.5	104.1	111.6	50- 60	1255	14150	91.6,91.6
70	62.09	61.65	57.46	53.52	51.11	52.03	53.65	59.18	60- 70	786.3	14937	96.7,96.7
80	25.57	24.84	22.26	18.93	19.52	18.62	18.96	22.70	70- 80	404.5	15341	99.3,99.3
90	0.1408	0.2250	0.1426	0.1022	0.0909	0.0915	0.0918	0.0922	80- 90	74.88	15416	99.8,99.8
100	0.0743	0.0748	0.0752	0.0755	0.1158	0.1166	0.1087	0.1175	90-100	0.9843	15417	99.8,99.8
110	0.0743	0.0748	0.0752	0.0755	0.2066	0.1996	0.1927	0.1852	100-110	1.173	15418	99.8,99.8
120	0.1321	0.1411	0.1170	0.1427	0.3223	0.3160	0.2931	0.2940	110-120	1.642	15420	99.8,99.8
130	0.2889	0.2744	0.3253	0.2851	0.4873	0.4242	0.3938	0.4113	120-130	2.404	15422	99.8,99.8
140	0.6770	0.6546	0.7345	0.6948	0.9420	0.8001	0.8281	0.7483	130-140	4.081	15426	99.8,99.8
150	1.460	1.379	1.538	1.661	1.785	1.630	1.555	1.470	140-150	7.059	15434	99.9,99.9
160	2.302	2.276	2.297	2.474	2.833	2.729	2.717	2.577	150-160	9.391	15443	99.9,99.9
170	3.154	3.076	3.242	3.222	3.181	3.179	3.269	3.240	160-170	7.957	15451	100,100
180	3.898	3.783	3.736	3.752	3.956	3.708	3.771	3.727	170-180	3.303	15454	100,100
DEG	LUMINOUS INTENSITY:×10cd									UNIT:lm		

Conical surface Flux(90deg): 12046 lm

%lum = 77.9%

%lamp = 77.9%

Conical surface Flux(120deg): 14150 lm

%lum = 91.6%

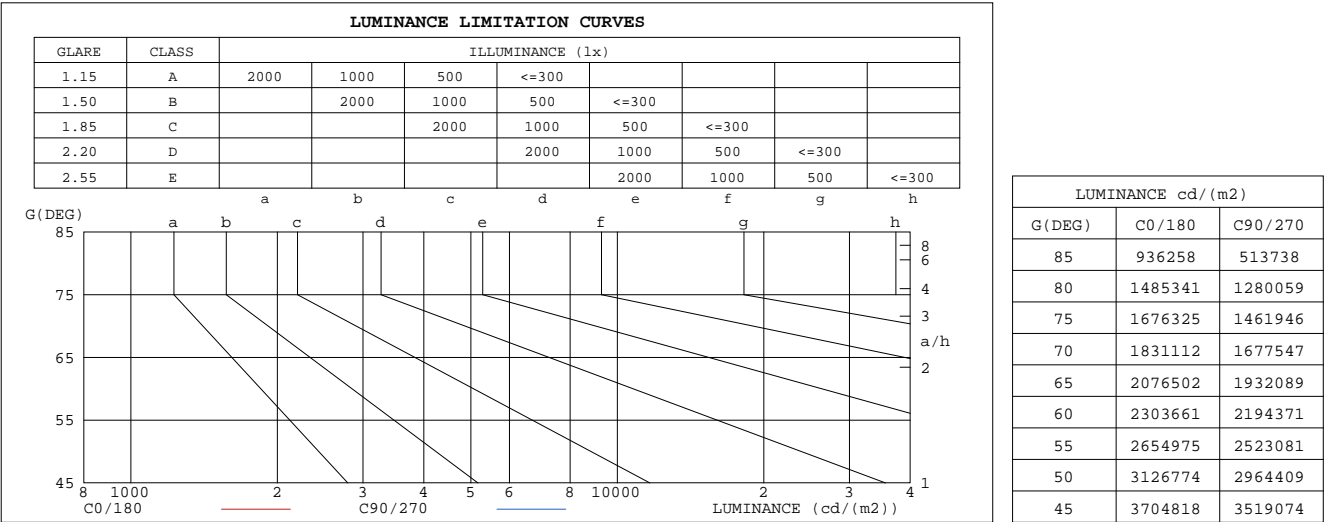
%lamp = 91.6%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-12

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

LUMINANCE LIMITATION CURVES

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm		
NAME:	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:2023-09-12

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

WEC AND CCEC

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm								
NAME:			TYPE:LED			WEIGHT:N/A		
SPEC.:N/A			DIM.:			SERIAL No.:N/A		
MFR.:			SUR.:			Shielding Angle:N/A		

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.225	.128	.041	.219	.125	.040	.206	.118	.038	.194	.112	.036	.183	.106	.034	
2.0	.215	.118	.036	.210	.115	.036	.198	.110	.034	.188	.106	.033	.179	.101	.032	
3.0	.203	.108	.032	.198	.106	.032	.188	.102	.031	.179	.098	.030	.171	.095	.029	
4.0	.190	.099	.029	.186	.097	.029	.177	.094	.028	.170	.091	.027	.162	.088	.027	
5.0	.179	.091	.026	.175	.090	.026	.167	.087	.026	.160	.085	.025	.154	.082	.025	
6.0	.168	.084	.024	.165	.083	.024	.158	.081	.024	.152	.079	.023	.146	.077	.023	
7.0	.159	.078	.022	.156	.077	.022	.150	.076	.022	.144	.074	.022	.139	.072	.021	
8.0	.150	.073	.021	.147	.072	.020	.142	.071	.020	.137	.069	.020	.132	.068	.020	
9.0	.142	.069	.019	.140	.068	.019	.135	.067	.019	.130	.065	.019	.126	.064	.019	
10.0	.135	.065	.018	.133	.064	.018	.128	.063	.018	.124	.062	.018	.121	.061	.017	

pcc	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	.176	.159	.143	.151	.136	.123	.103	.094	.085	.059	.054	.049	.019	.017	.016	
2.0	.164	.134	.109	.140	.116	.094	.096	.080	.066	.055	.046	.039	.018	.015	.013	
3.0	.153	.116	.086	.132	.100	.074	.090	.069	.052	.052	.041	.031	.017	.013	.010	
4.0	.144	.102	.069	.124	.088	.060	.085	.061	.042	.049	.036	.025	.016	.012	.008	
5.0	.136	.090	.057	.117	.078	.049	.081	.055	.035	.047	.032	.021	.015	.010	.007	
6.0	.129	.082	.048	.111	.071	.041	.076	.049	.029	.044	.029	.017	.014	.010	.006	
7.0	.122	.074	.041	.105	.064	.035	.073	.045	.025	.042	.027	.015	.014	.009	.005	
8.0	.116	.068	.035	.100	.059	.031	.069	.042	.022	.040	.024	.013	.013	.008	.004	
9.0	.111	.063	.031	.095	.055	.027	.066	.038	.019	.038	.023	.011	.012	.007	.004	
10.0	.106	.059	.027	.091	.051	.024	.063	.036	.017	.037	.021	.010	.012	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-12

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

UGR(Unified Glare Rating) Table

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm											
NAME:			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		38.7	39.9	39.0	40.1	40.3	38.6	39.7	38.8	39.9	40.1
	3H	39.6	40.7	39.9	40.9	41.1	39.4	40.4	39.6	40.6	40.9
	4H	39.9	41.0	40.2	41.2	41.4	39.7	40.7	40.0	40.9	41.2
	6H	40.2	41.2	40.5	41.4	41.7	39.9	40.8	40.2	41.1	41.4
	8H	40.3	41.2	40.6	41.5	41.8	39.9	40.9	40.3	41.1	41.4
	12H	40.3	41.2	40.6	41.5	41.8	39.9	40.8	40.3	41.1	41.4
4H	2H	39.1	40.1	39.4	40.3	40.6	38.9	39.9	39.2	40.2	40.4
	3H	40.1	41.0	40.4	41.3	41.6	39.9	40.8	40.2	41.1	41.4
	4H	40.6	41.4	40.9	41.7	42.0	40.3	41.1	40.7	41.4	41.8
	6H	41.0	41.7	41.4	42.0	42.4	40.7	41.4	41.0	41.7	42.1
	8H	41.1	41.8	41.5	42.1	42.5	40.7	41.4	41.2	41.8	42.1
	12H	41.1	41.7	41.6	42.1	42.5	40.8	41.4	41.2	41.7	42.1
8H	4H	40.7	41.4	41.1	41.7	42.1	40.5	41.1	40.9	41.5	41.9
	6H	41.2	41.8	41.7	42.2	42.6	40.9	41.5	41.4	41.9	42.3
	8H	41.4	41.9	41.9	42.3	42.8	41.1	41.6	41.6	42.0	42.5
	12H	41.5	41.9	42.0	42.4	42.8	41.1	41.5	41.6	42.0	42.5
12H	4H	40.7	41.3	41.1	41.7	42.1	40.5	41.1	40.9	41.5	41.9
	6H	41.3	41.7	41.7	42.2	42.6	41.0	41.5	41.4	41.9	42.3
	8H	41.5	41.9	41.9	42.3	42.8	41.2	41.6	41.6	42.0	42.5
Variations with the observer position at spacings:											
S = 1.0H		+ 0.4 / - 0.5				+ 0.4 / - 0.6					
1.5H		+ 0.4 / - 0.3				+ 0.3 / - 0.3					
2.0H		+ 0.8 / - 0.5				+ 0.8 / - 0.6					

CIE Pub.117, 15454 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 9.5$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-12

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

UTILIZATION FACTORS TABLE

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

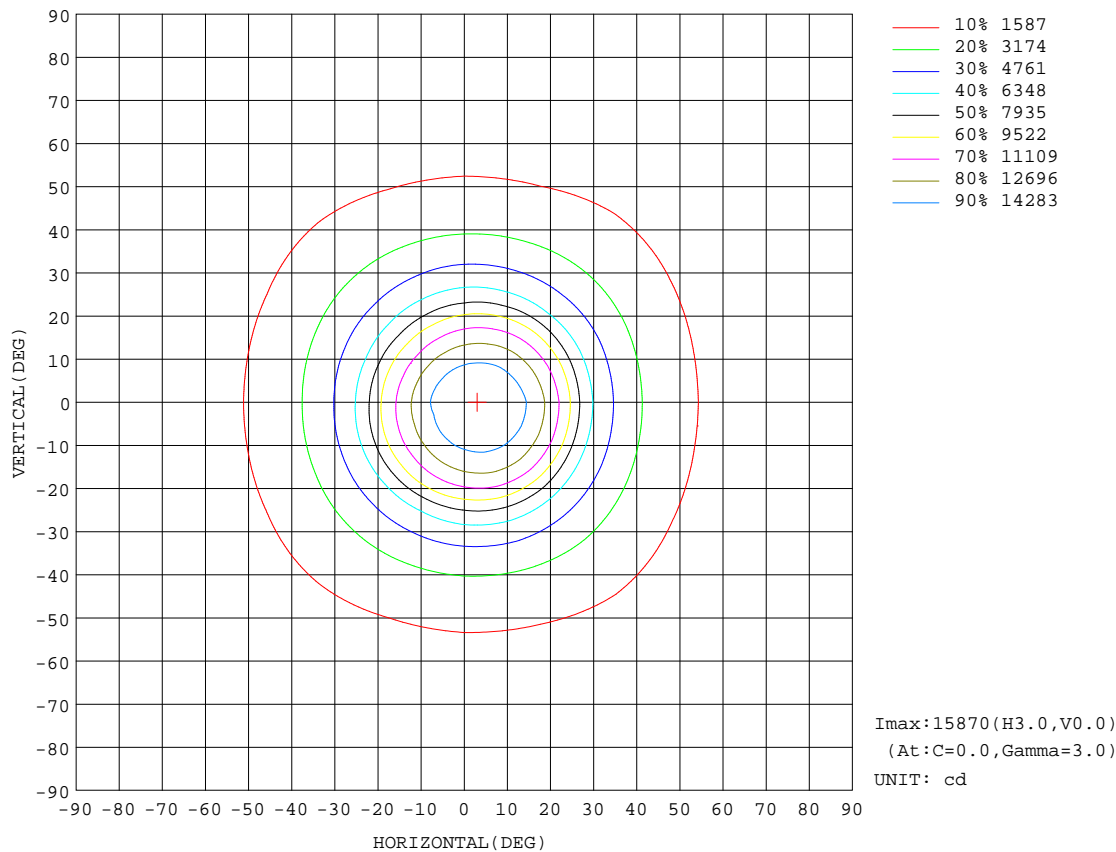
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	74	65	60	73	65	60	72	64	60	55
0.80	83	74	69	82	74	69	80	73	68	63
1.00	89	81	76	88	81	76	86	81	75	70
1.25	95	87	82	93	86	82	91	85	81	75
1.50	98	91	87	97	91	86	94	89	85	79
2.00	103	97	92	101	96	92	98	94	90	84
2.50	105	100	96	104	99	95	100	96	93	86
3.00	108	103	99	106	101	98	102	99	96	88
4.00	111	107	103	108	105	102	105	102	99	91
5.00	112	109	106	110	107	105	106	104	102	93
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:2023-09-12

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

ISOCANDELA DIAGRAM

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

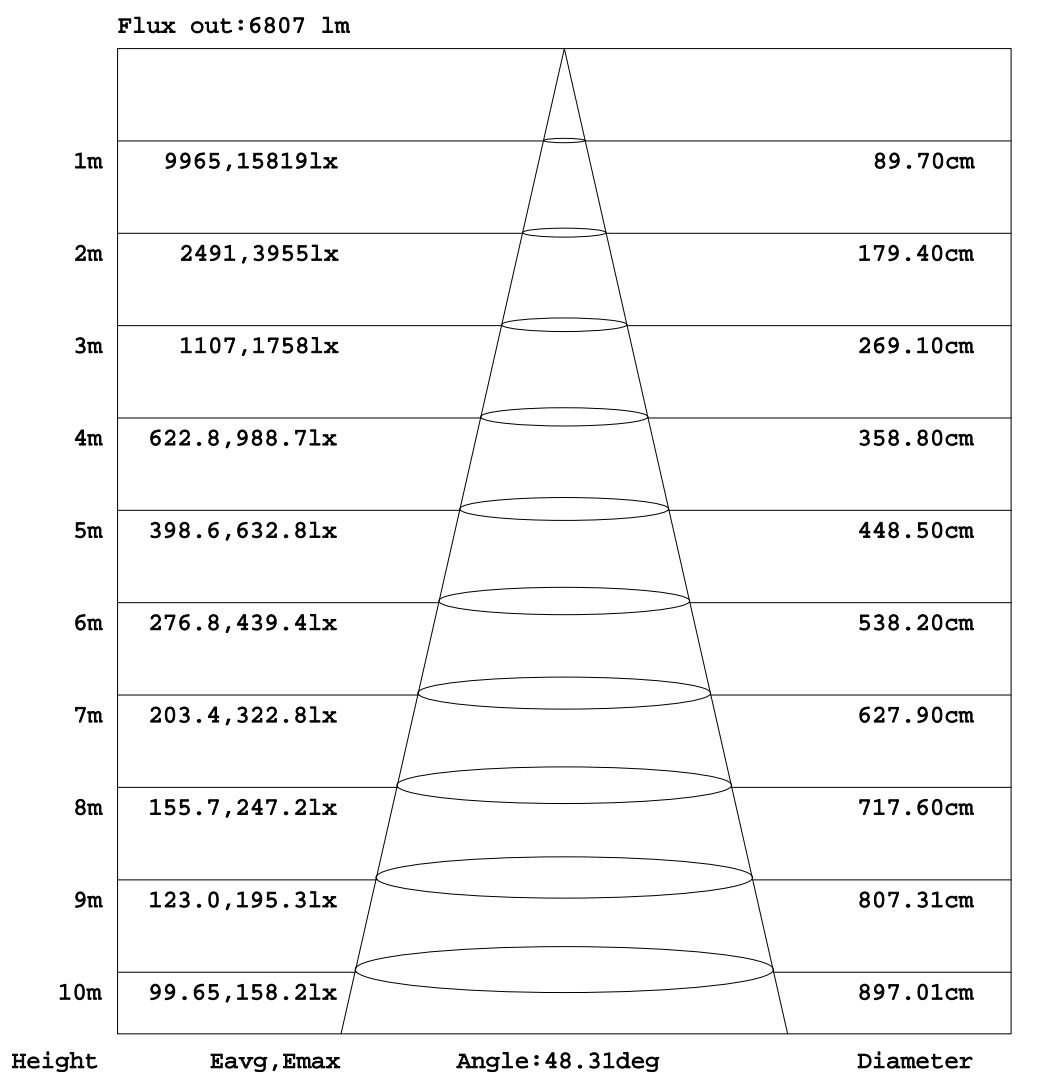


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-09-12

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

AAI Figure

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

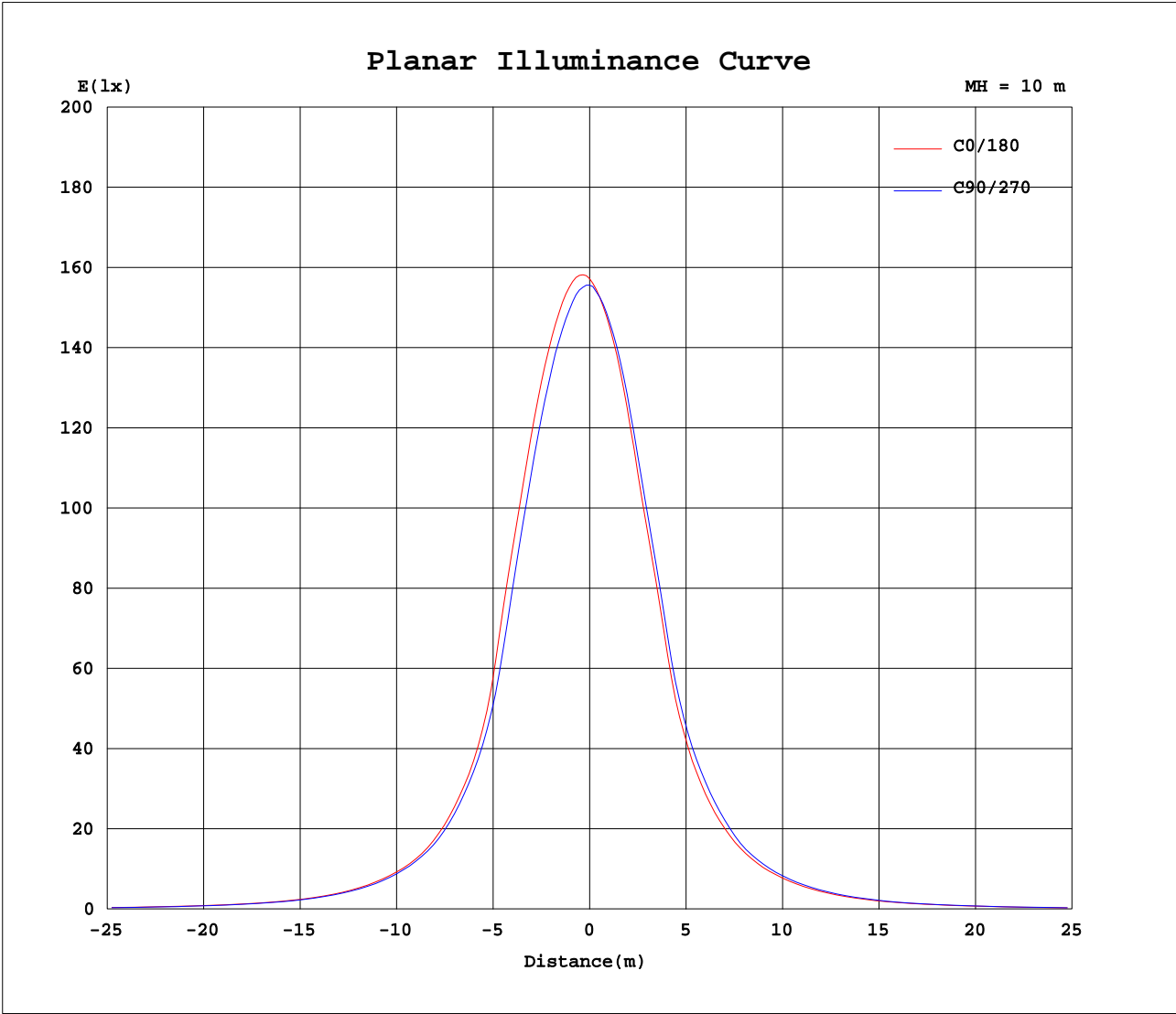


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-12

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-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:2023-09-12

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

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.21V I:0.4787A P:100.87W PF:0.9568 Freq:50.00Hz Lamp Flux:15454.2x1 lm																	
NAME:									TYPE:LED						WEIGHT:N/A		
SPEC.:N/A									DIM.:						SERIAL No.:N/A		
MFR.:									SUR.:						Shielding Angle:N/A		

Table--1

UNIT: x10cd

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	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559			
5	1569	1568	1562	1549	1534	1520	1508	1495	1483	1480	1482	1492	1507	1526	1548	1561			
10	1515	1514	1502	1480	1455	1426	1399	1373	1347	1335	1338	1357	1392	1431	1474	1502			
15	1399	1400	1388	1355	1311	1264	1216	1180	1137	1120	1123	1148	1198	1258	1326	1381			
20	1197	1207	1195	1155	1094	1036	986	953	906	888	887	914	970	1034	1106	1170			
25	916	923	908	865	798	735	691	672	638	626	633	660	700	743	812	883			
30	621	621	616	606	578	540	513	496	478	478	485	503	530	543	567	603			
35	460	464	459	452	433	410	388	375	363	366	370	387	404	419	436	456			
40	338	341	340	332	323	307	295	283	277	278	285	291	302	309	323	336			
45	260	260	262	255	249	236	228	220	217	216	224	226	236	238	251	257			
50	199	196	201	194	191	180	177	169	168	165	173	173	181	181	193	197			
55	151	147	152	146	145	135	134	127	127	123	131	131	138	137	147	148			
60	114	111	115	110	110	103	103	97.0	97.6	94.9	100	98.9	104	104	112	112			
65	87.0	83.7	86.3	82.3	81.8	77.1	76.9	73.0	73.1	71.1	75.2	74.0	77.4	77.7	83.8	84.5			
70	62.1	60.4	61.6	58.2	57.5	54.3	53.5	51.6	51.1	50.4	52.0	51.0	53.7	54.8	59.2	60.2			
75	43.0	42.8	41.9	39.6	37.9	36.4	36.3	35.4	35.8	34.9	36.1	34.7	34.3	36.2	38.8	42.5			
80	25.6	25.5	24.8	24.5	22.3	19.8	18.9	20.0	19.5	19.2	18.6	18.8	19.0	20.3	22.7	25.7			
85	8.09	8.36	7.45	6.57	4.48	3.50	2.43	2.04	1.87	1.83	1.88	2.30	2.83	3.96	5.53	7.64			
90	0.14	0.15	0.22	0.19	0.14	0.12	0.10	0.11	0.09	0.09	0.09	0.08	0.09	0.08	0.09	0.09			
95	0.08	0.08	0.09	0.09	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.10	0.08	0.08	0.09	0.08			
100	0.07	0.07	0.07	0.07	0.08	0.07	0.08	0.07	0.12	0.11	0.12	0.11	0.11	0.11	0.12	0.11			
105	0.07	0.07	0.07	0.07	0.08	0.07	0.08	0.07	0.16	0.16	0.16	0.14	0.15	0.13	0.14	0.14			
110	0.07	0.07	0.07	0.07	0.08	0.07	0.08	0.07	0.21	0.20	0.20	0.20	0.19	0.18	0.19	0.18			
115	0.07	0.07	0.08	0.07	0.08	0.07	0.08	0.08	0.26	0.25	0.26	0.25	0.23	0.23	0.24	0.23			
120	0.13	0.16	0.14	0.13	0.12	0.10	0.14	0.14	0.32	0.31	0.32	0.29	0.29	0.28	0.29	0.27			
125	0.17	0.17	0.17	0.18	0.20	0.18	0.18	0.20	0.38	0.37	0.33	0.30	0.34	0.28	0.33	0.32			
130	0.29	0.28	0.27	0.32	0.33	0.28	0.29	0.32	0.49	0.46	0.42	0.43	0.39	0.38	0.41	0.40			
135	0.44	0.41	0.42	0.51	0.49	0.46	0.41	0.51	0.66	0.60	0.55	0.57	0.59	0.55	0.52	0.50			
140	0.68	0.65	0.65	0.73	0.73	0.77	0.69	0.84	0.94	0.89	0.80	0.87	0.83	0.83	0.75	0.72			
145	1.01	0.93	0.93	1.05	1.05	1.18	1.10	1.19	1.31	1.23	1.14	1.30	1.16	1.20	1.04	1.06			
150	1.46	1.37	1.38	1.50	1.54	1.61	1.66	1.64	1.79	1.72	1.63	1.76	1.55	1.64	1.47	1.50			
155	1.93	1.84	1.86	1.90	1.89	2.02	2.15	2.11	2.35	2.30	2.21	2.31	2.15	2.11	1.91	2.03			
160	2.30	2.22	2.28	2.27	2.30	2.40	2.47	2.49	2.83	2.78	2.73	2.81	2.72	2.52	2.58	2.48			
165	2.72	2.58	2.64	2.68	2.72	2.70	2.81	2.89	3.06	3.03	2.97	3.05	3.01	2.91	2.95	2.76			
170	3.15	3.02	3.08	3.12	3.24	3.09	3.22	3.33	3.18	3.21	3.18	3.29	3.27	3.17	3.24	3.00			
175	3.66	3.47	3.63	3.70	3.74	3.64	3.74	3.74	3.60	3.58	3.56	3.65	3.60	3.56	3.60	3.38			
180	3.90	3.70	3.78	3.74	3.74	3.71	3.75	3.78	3.96	3.92	3.71	3.81	3.77	3.75	3.73	3.73			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-09-12

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