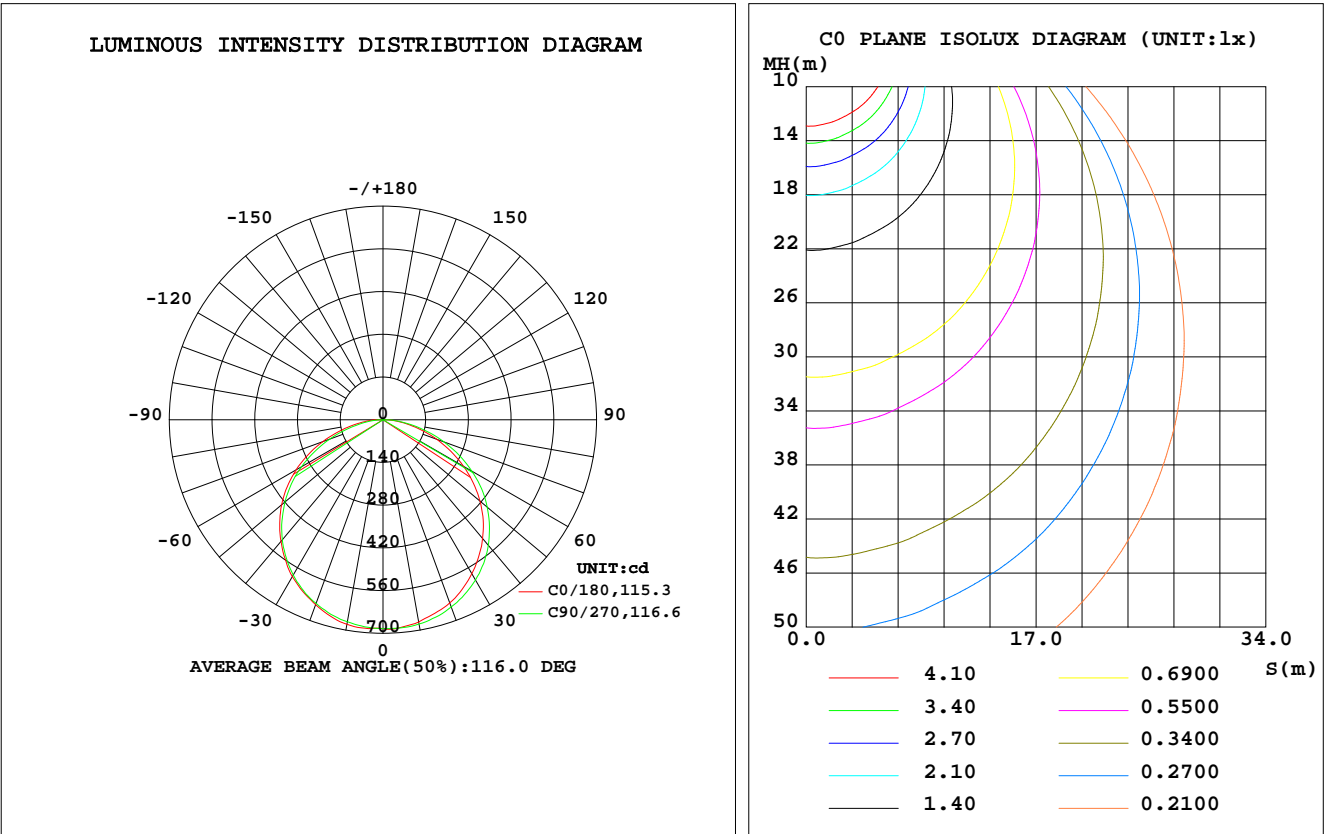


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 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: 109.75 lm/W			
WATTAGE(W)	17.5	Imax(cd)	686.9	S/MH(C0/180)	1.29
NOMINAL POWER(W)	17.5	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	2041.3	η UP,DN(C0-180)	0.2,50.5
NOMINAL FLUX(lm)	2041.3	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,49.1
LAMPS INSIDE	1	η up(%)	0.4	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	99.6	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

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=1.5110]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	673.3	673.9	679.8	677.2	680.6	674.4	672.1	671.1	0- 10	64.92	64.92	3.18,3.18
20	639.0	642.3	652.9	645.8	645.4	642.2	640.4	627.6	10- 20	186.7	251.6	12.3,12.3
30	582.4	591.1	606.4	595.2	593.6	586.0	588.0	582.8	20- 30	285.1	536.7	26.3,26.3
40	507.8	516.6	537.0	518.1	520.3	512.2	513.4	505.4	30- 40	347.4	884.1	43.3,43.3
50	415.3	427.4	445.8	434.7	433.5	422.7	419.0	410.4	40- 50	364.6	1249	61.2,61.2
60	304.3	316.4	336.0	329.6	329.1	314.9	308.5	301.8	50- 60	333.3	1582	77.5,77.5
70	187.0	196.1	213.0	210.8	210.1	197.0	186.3	181.9	60- 70	255.0	1837	90,90
80	79.52	84.65	93.09	97.83	96.22	81.71	72.32	74.55	70- 80	146.8	1984	97.2,97.2
90	13.80	13.87	12.27	24.82	27.27	18.68	5.556	12.67	80- 90	49.46	2033	99.6,99.6
100	1.803	0.0874	0.0893	1.953	5.157	0.6995	0.5342	1.288	90-100	3.737	2037	99.8,99.8
110	1.941	0	0.2694	0.2574	0.8614	0.6995	1.163	0.6840	100-110	1.037	2038	99.8,99.8
120	1.293	0	0.3012	0.0857	0.8614	0.6995	1.608	0.6846	110-120	0.6697	2039	99.9,99.9
130	1.032	0.1530	0.3331	0.1286	0.8614	0.6995	1.608	0.6852	120-130	0.5832	2039	99.9,99.9
140	0.7753	0.2467	0.4650	0.2000	0.8614	0.6995	1.608	0.7591	130-140	0.5281	2040	99.9,99.9
150	0.7753	0.3522	0.8038	0.3248	0.8614	0.6995	1.608	0.9429	140-150	0.4791	2040	100,100
160	0.7753	0.4813	1.093	0.5914	0.8614	0.6995	1.608	1.259	150-160	0.4121	2041	100,100
170	0.7753	0.7025	2.409	0.7577	0.8614	0.6995	1.608	1.325	160-170	0.2937	2041	100,100
180	0.7753	1.312	2.858	1.114	0.8614	0.6995	1.608	1.371	170-180	0.1170	2041	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1067.2 lm

%lum = 52.3%

%lamp = 52.3%

Conical surface Flux(120deg): 1582.1 lm

%lum = 77.5%

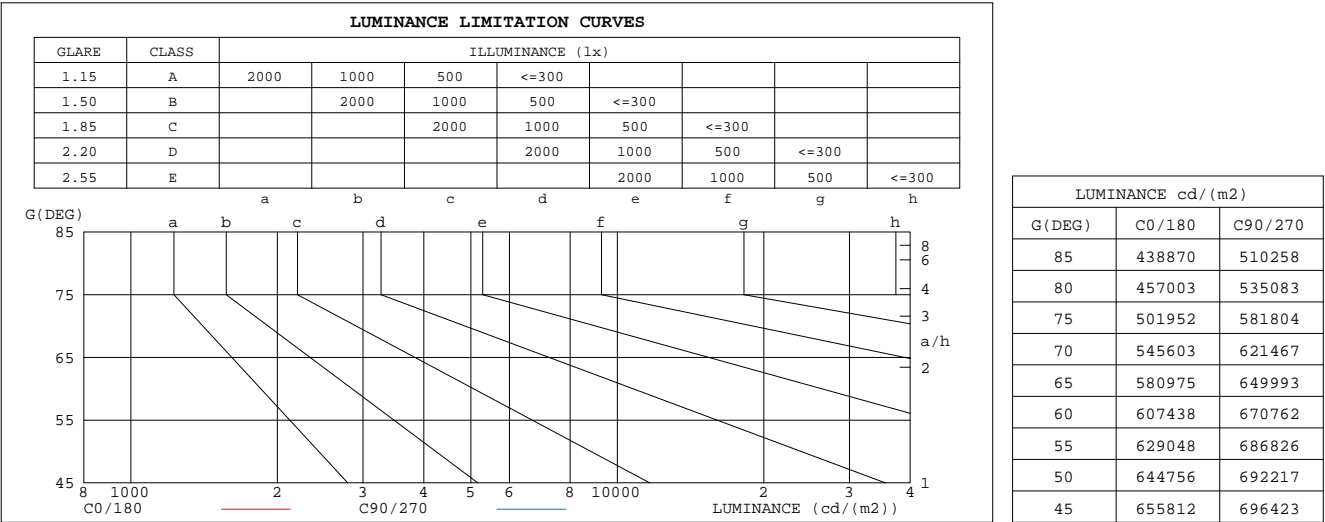
%lamp = 77.5%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 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:2023-12-29

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=1.5110]
Remarks:

WEC AND CCEC

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 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
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	.318	.181	.057	.310	.177	.056	.297	.170	.054	.284	.164	.053	.273	.158	.051	
2.0	.297	.163	.050	.290	.160	.049	.278	.155	.048	.267	.150	.047	.257	.145	.046	
3.0	.274	.146	.044	.268	.143	.043	.257	.139	.042	.248	.136	.042	.238	.132	.041	
4.0	.252	.131	.038	.247	.129	.038	.238	.126	.038	.229	.123	.037	.221	.120	.037	
5.0	.233	.119	.034	.228	.117	.034	.220	.114	.034	.212	.112	.033	.205	.109	.033	
6.0	.215	.108	.031	.212	.107	.031	.204	.105	.030	.197	.102	.030	.191	.100	.030	
7.0	.200	.099	.028	.197	.098	.028	.190	.096	.028	.184	.094	.027	.178	.093	.027	
8.0	.187	.091	.026	.184	.091	.026	.178	.089	.025	.172	.087	.025	.167	.086	.025	
9.0	.175	.085	.024	.172	.084	.024	.167	.083	.023	.162	.081	.023	.157	.080	.023	
10.0	.165	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.021	

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	.193	.193	.193	.165	.165	.165	.113	.113	.113	.065	.065	.065	.021	.021	.021	
1.0	.184	.159	.137	.157	.136	.118	.108	.094	.081	.062	.054	.047	.020	.017	.015	
2.0	.176	.135	.100	.151	.116	.087	.103	.080	.061	.060	.047	.035	.019	.015	.012	
3.0	.168	.117	.077	.144	.101	.067	.099	.070	.047	.057	.041	.028	.018	.013	.009	
4.0	.161	.104	.061	.138	.090	.053	.095	.063	.037	.055	.037	.022	.018	.012	.007	
5.0	.153	.094	.050	.131	.081	.043	.091	.057	.031	.052	.033	.018	.017	.011	.006	
6.0	.146	.085	.042	.125	.074	.036	.087	.052	.026	.050	.030	.015	.016	.010	.005	
7.0	.139	.078	.036	.120	.068	.031	.083	.048	.022	.048	.028	.013	.016	.009	.004	
8.0	.133	.073	.032	.114	.063	.028	.079	.044	.020	.046	.026	.012	.015	.009	.004	
9.0	.126	.068	.028	.109	.059	.025	.075	.041	.017	.044	.024	.010	.014	.008	.003	
10.0	.121	.063	.025	.104	.055	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

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=1.5110]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 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	35.2	36.7	35.5	36.9	37.2	35.6	37.1	35.9	37.3	37.6
3H	36.7	38.1	37.0	38.3	38.6	37.2	38.6	37.5	38.9	39.1
4H	37.2	38.6	37.6	38.9	39.1	37.8	39.2	38.2	39.4	39.7
6H	37.7	38.9	38.0	39.2	39.5	38.3	39.6	38.6	39.9	40.1
8H	37.8	39.0	38.2	39.3	39.6	38.5	39.7	38.8	40.0	40.3
12H	37.9	39.1	38.3	39.4	39.7	38.6	39.8	38.9	40.1	40.4
4H 2H	35.9	37.2	36.2	37.5	37.7	36.2	37.5	36.5	37.8	38.0
3H	37.5	38.7	37.9	39.0	39.3	37.9	39.1	38.3	39.4	39.7
4H	38.2	39.3	38.6	39.6	39.9	38.7	39.8	39.1	40.1	40.5
6H	38.7	39.7	39.1	40.1	40.4	39.3	40.3	39.7	40.6	41.0
8H	38.9	39.8	39.4	40.2	40.6	39.5	40.4	39.9	40.8	41.2
12H	39.1	39.9	39.5	40.3	40.7	39.7	40.5	40.1	40.9	41.3
8H 4H	38.5	39.4	38.9	39.8	40.1	38.9	39.8	39.4	40.2	40.6
6H	39.2	39.9	39.6	40.3	40.8	39.7	40.4	40.1	40.8	41.3
8H	39.5	40.1	39.9	40.6	41.0	40.0	40.7	40.5	41.1	41.6
12H	39.7	40.3	40.2	40.7	41.2	40.3	40.8	40.7	41.3	41.8
12H 4H	38.5	39.3	38.9	39.7	40.1	38.9	39.8	39.4	40.2	40.6
6H	39.3	39.9	39.7	40.4	40.8	39.7	40.4	40.2	40.8	41.3
8H	39.6	40.2	40.1	40.6	41.1	40.1	40.7	40.6	41.1	41.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 2041 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.5$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

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=1.5110]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

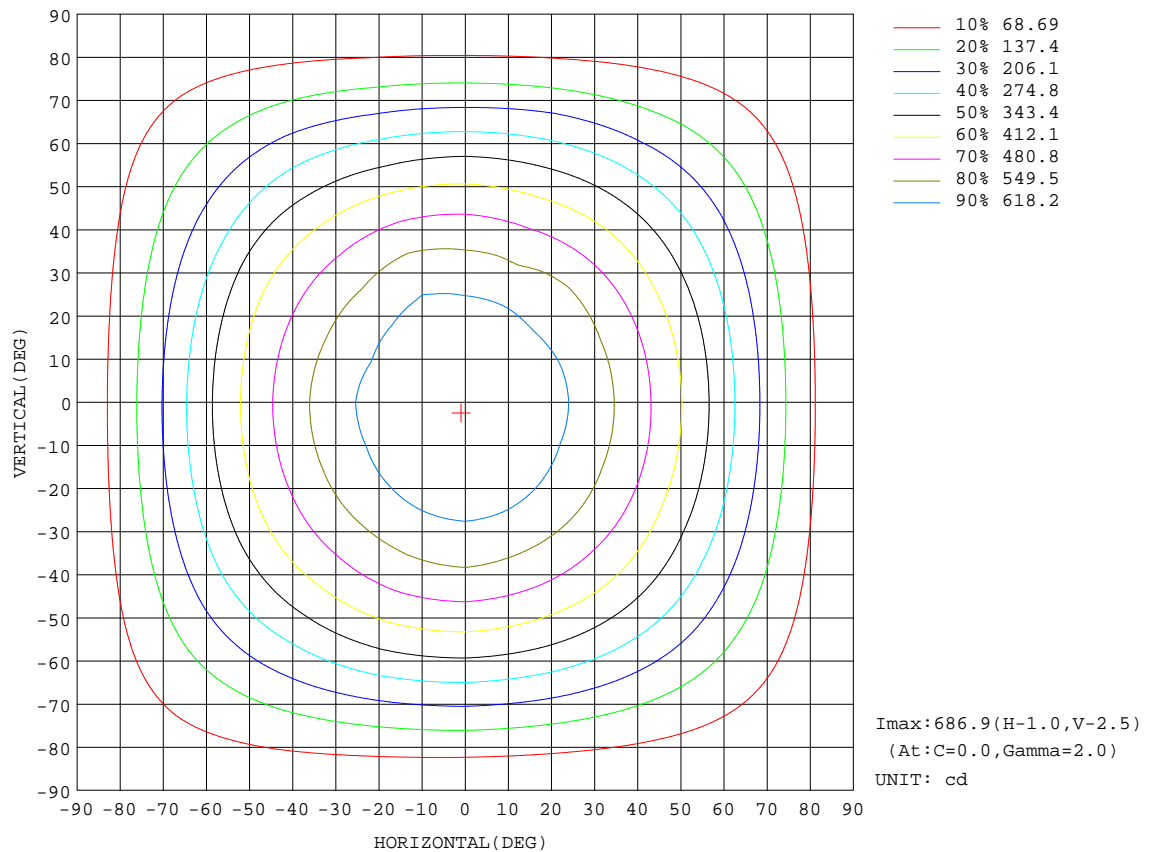
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	44	38	31
0.80	67	55	48	66	55	47	64	54	47	40
1.00	75	64	56	74	63	56	72	65	56	48
1.25	82	72	64	81	71	64	78	69	63	56
1.50	87	77	70	86	76	70	83	75	69	61
2.00	94	86	79	92	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	99	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	97	101	98	94	85
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:2023-12-29

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=1.5110]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

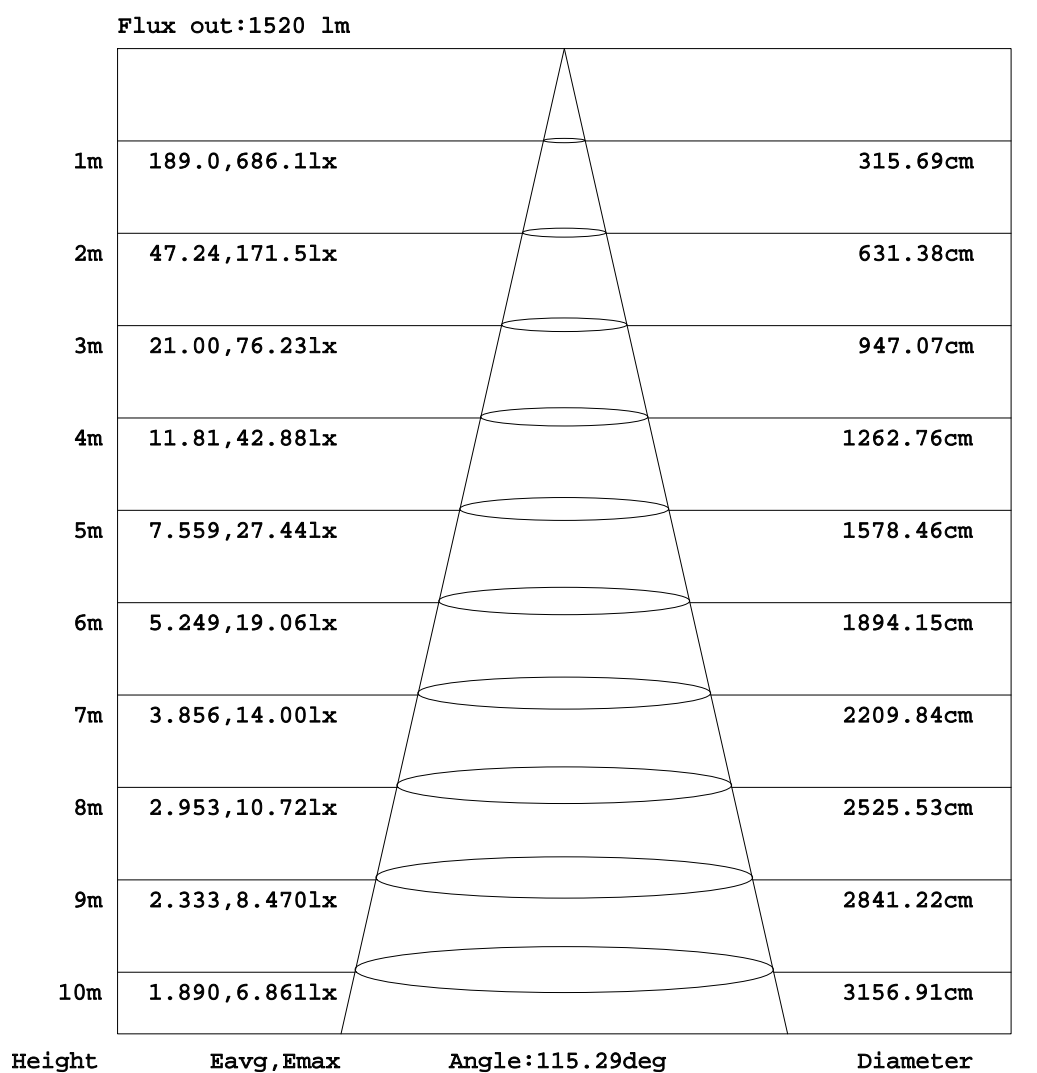


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

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=1.5110]
Remarks:

AAI Figure

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

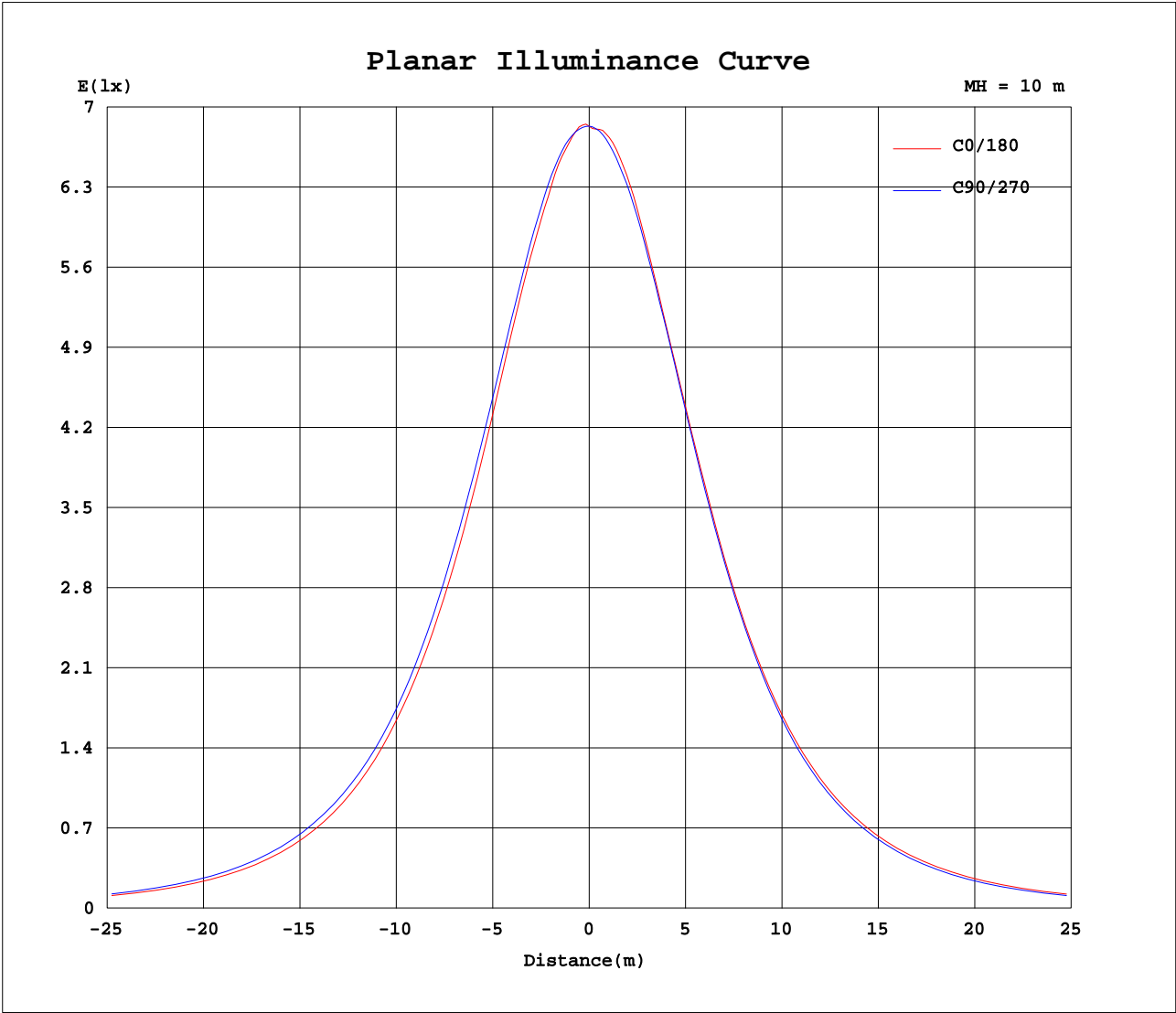


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

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=1.5110]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

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=1.5110]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.003V I:0.7749A P:18.600W PF:1.0000 Freq:0Hz Lamp Flux:2041.3x1 lm																		
NAME:									TYPE:LED					WEIGHT:N/A				
SPEC.:N/A									DIM.:					SERIAL No.:N/A				
MFR.:									SUR.:					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	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685			
5	683	680	682	682	684	685	684	686	686	683	682	681	681	681	681	679			
10	673	671	674	676	680	678	677	678	681	676	674	674	672	673	671	669			
15	657	657	660	665	669	666	664	663	666	662	662	663	660	657	654	649			
20	639	638	642	649	653	650	646	641	645	637	642	646	640	638	628	631			
25	613	613	620	626	632	627	622	617	622	613	615	626	618	610	611	610			
30	582	583	591	597	606	601	595	590	594	584	586	597	588	582	583	580			
35	547	549	557	563	575	568	562	557	559	551	550	564	553	545	550	542			
40	508	511	517	524	537	530	518	519	520	516	512	519	513	505	505	504			
45	465	468	474	483	493	488	480	478	479	474	469	471	468	462	453	461			
50	415	416	427	435	446	442	435	433	433	430	423	420	419	409	410	409			
55	362	363	373	383	395	394	384	384	383	381	370	363	366	362	357	357			
60	304	307	316	326	336	336	330	331	329	322	315	307	308	305	302	301			
65	246	248	257	266	275	275	270	273	271	261	258	248	248	245	242	244			
70	187	188	196	205	213	212	211	214	210	202	197	186	186	189	182	185			
75	130	132	137	144	151	150	152	154	151	143	137	128	125	125	124	128			
80	79.5	81.5	84.6	87.9	93.1	94.6	97.8	99.6	96.2	89.7	81.7	74.1	72.3	72.3	74.5	77.1			
85	38.3	39.3	40.9	42.8	44.6	48.7	52.8	55.2	53.4	48.6	41.9	33.6	31.8	34.1	35.9	38.4			
90	13.8	13.6	13.9	14.7	12.3	20.3	24.8	28.2	27.3	24.4	18.7	11.2	5.56	10.6	12.7	13.9			
95	0.26	0.26	0.17	0.40	0.27	0.34	0.61	0.26	0.09	0.09	2.48	1.68	0.27	1.88	2.17	0.21			
100	1.80	0.09	0.09	0.36	0.09	0.26	1.95	5.41	5.16	3.61	0.70	0.69	0.53	0.60	1.29	2.65			
105	2.05	0.09	0.09	0.18	0.09	0.18	0.95	2.07	1.80	0.78	0.70	0.73	0.80	0.40	0.77	1.80			
110	1.94	0.69	0.00	0.18	0.27	0.17	0.26	0.77	0.86	0.78	0.70	0.79	1.16	0.47	0.68	1.49			
115	1.72	0.69	0.00	0.18	0.29	0.17	0.09	0.77	0.86	0.78	0.70	0.82	1.61	0.54	0.68	1.02			
120	1.29	0.69	0.00	0.18	0.30	0.17	0.09	0.77	0.86	0.78	0.70	0.85	1.61	0.61	0.68	0.70			
125	1.12	0.69	0.11	0.18	0.32	0.17	0.09	0.77	0.86	0.78	0.70	0.87	1.61	0.68	0.68	0.72			
130	1.03	0.69	0.15	0.18	0.33	0.17	0.13	0.77	0.86	0.78	0.70	1.07	1.61	0.82	0.69	0.73			
135	0.82	0.69	0.20	0.18	0.35	0.17	0.16	0.77	0.86	0.78	0.70	1.19	1.61	0.97	0.69	0.75			
140	0.78	0.69	0.25	0.18	0.46	0.26	0.20	0.77	0.86	0.78	0.70	1.24	1.61	1.09	0.76	0.76			
145	0.78	0.69	0.29	0.32	0.71	0.43	0.24	0.77	0.86	0.78	0.70	1.30	1.61	1.21	0.86	0.79			
150	0.78	0.69	0.35	0.53	0.80	0.42	0.32	0.77	0.86	0.78	0.70	1.32	1.61	1.42	0.94	0.86			
155	0.78	0.69	0.43	0.53	0.92	0.52	0.48	0.77	0.86	0.78	0.70	1.32	1.61	1.61	1.23	1.03			
160	0.78	0.69	0.48	0.53	1.09	0.70	0.59	0.77	0.86	0.78	0.70	1.32	1.61	2.17	1.26	1.05			
165	0.78	0.69	0.56	0.79	1.43	0.81	0.69	0.77	0.86	0.78	0.70	1.32	1.61	2.39	1.29	1.07			
170	0.78	0.69	0.70	1.34	2.41	0.95	0.76	0.77	0.86	0.78	0.70	1.32	1.61	2.51	1.33	1.09			
175	0.78	0.69	1.22	1.39	2.86	1.13	1.20	0.77	0.86	0.78	0.70	1.32	1.61	2.57	1.36	1.11			
180	0.78	0.69	1.31	1.41	2.86	1.39	1.11	0.77	0.86	0.78	0.70	1.32	1.61	2.60	1.37	1.11			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

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=1.5110]
Remarks: