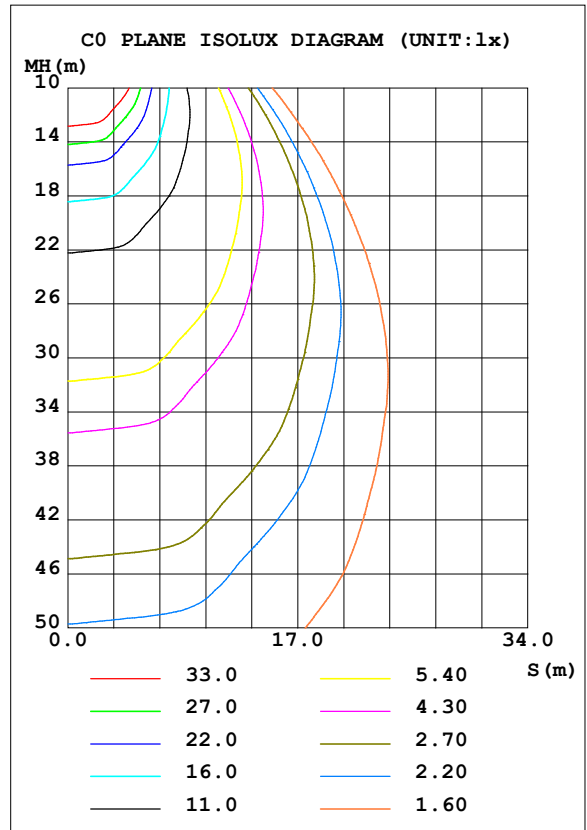
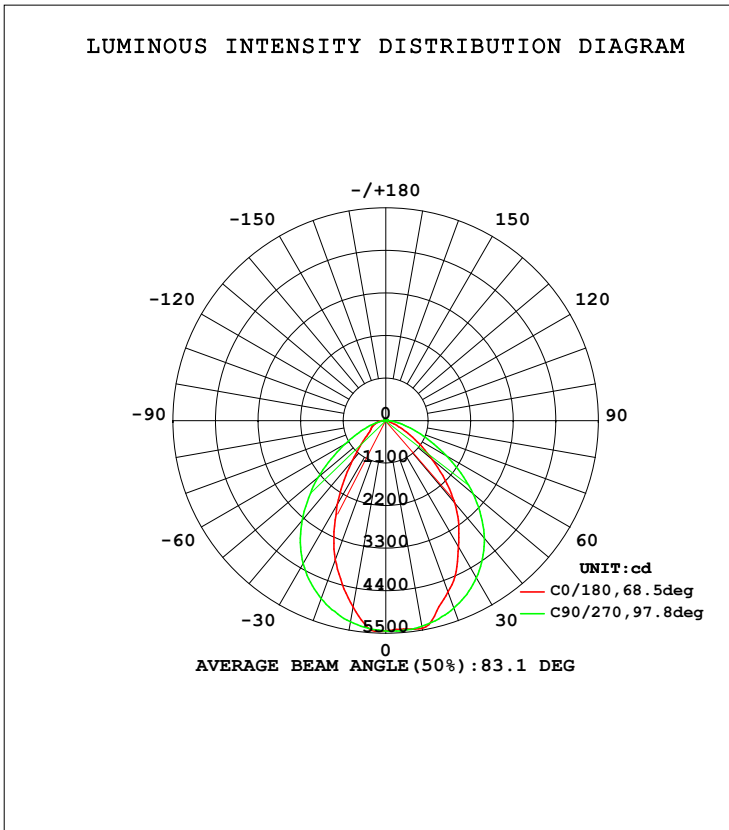


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 122.29 lm/W			
MODEL	4432-10B-80-4K	I _{max} (cd)	5459	S/MH (C0/180)	0.84
NOMINAL POWER (W)	80	LOR (%)	100.0	S/MH (C90/270)	1.18
RATED VOLTAGE (V)	220	TOTAL FLUX (lm)	9844.6	η UP, DN (C0-180)	0.3, 54.0
NOMINAL FLUX (lm)	9844.62	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.5, 45.2
LAMPS INSIDE	1	η up (%)	0.8	CIBSE SHR NOM	1.00
TEST VOLTAGE (V)	220	η down (%)	99.2	CIBSE SHR MAX	1.10



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 8.250m [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	5452	5397	5399	4913	4890	4834	5278	5317	0- 10	506.5	506.5	5.15,5.15
20	4715	5225	5155	4041	3826	3872	4894	5081	10- 20	1384	1890	19.2,19.2
30	3770	4452	4688	2896	2518	2628	4272	4259	20- 30	1910	3801	38.6,38.6
40	2770	3633	3966	1746	1346	1442	3367	3404	30- 40	1999	5800	58.9,58.9
50	1586	2572	2950	900.7	680.5	731.6	2292	2285	40- 50	1704	7504	76.2,76.2
60	675.3	1504	1805	503.1	448.5	448.3	1221	1217	50- 60	1200	8704	88.4,88.4
70	125.4	626.8	877.3	354.3	328.6	315.2	523.5	434.6	60- 70	688.4	9392	95.4,95.4
80	2.437	45.04	302.8	221.5	204.0	175.9	138.8	4.789	70- 80	287.9	9680	98.3,98.3
90	1.990	3.764	16.14	84.56	98.55	51.96	6.597	3.283	80- 90	82.89	9763	99.2,99.2
100	3.696	3.772	7.441	5.860	7.000	10.34	14.71	5.825	90-100	17.45	9780	99.3,99.3
110	6.638	6.960	16.53	15.12	11.40	22.79	28.31	10.98	100-110	11.16	9792	99.5,99.5
120	11.68	13.07	30.63	29.85	25.10	40.22	45.84	19.51	110-120	20.34	9812	99.7,99.7
130	20.72	23.63	47.42	48.02	43.91	59.77	63.83	32.86	120-130	30.85	9843	100,100
140	0	0	0	0	0	0	0	0	130-140	1.773	9845	100,100
150	0	0	0	0	0	0	0	0	140-150	0	9845	100,100
160	0	0	0	0	0	0	0	0	150-160	0	9845	100,100
170	0	0	0	0	0	0	0	0	160-170	0	9845	100,100
180	0	0	0	0	0	0	0	0	170-180	0	9845	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

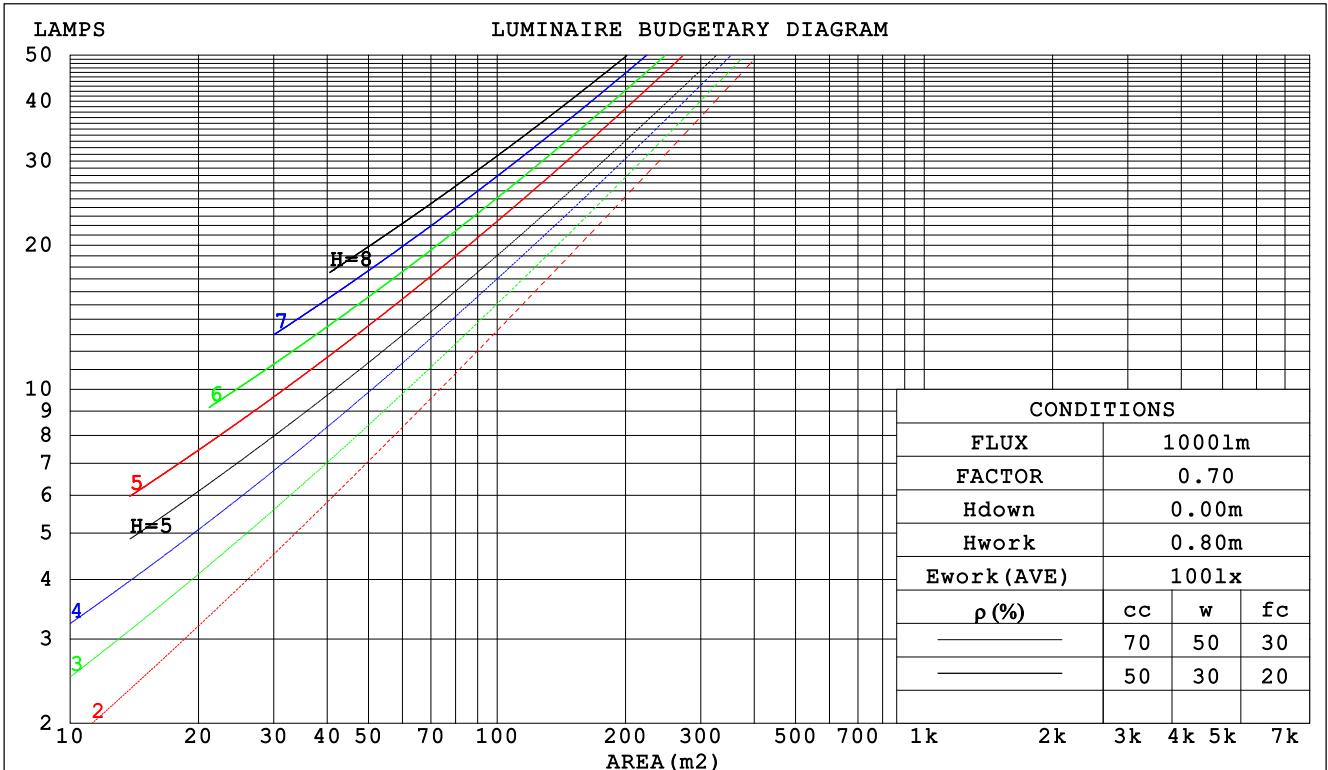
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	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						Coefficients of Utilization(CU)									
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.01	1.01	1.01	.99
1.0	1.07	1.03	.90	1.04	1.01	.98	.90	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.95	.89	.85	.93	.88	.84	.90	.85	.82	.86	.83	.80	.83	.80	.78	.76
3.0	.85	.78	.73	.84	.77	.72	.81	.75	.71	.78	.73	.69	.76	.72	.68	.66
4.0	.77	.69	.63	.76	.69	.63	.73	.67	.62	.71	.66	.61	.69	.64	.60	.58
5.0	.70	.62	.56	.69	.61	.56	.67	.60	.55	.65	.59	.54	.63	.58	.54	.52
6.0	.64	.56	.50	.63	.55	.50	.61	.54	.49	.59	.53	.49	.58	.52	.48	.46
7.0	.58	.50	.45	.58	.50	.45	.56	.49	.44	.55	.48	.44	.53	.48	.44	.42
8.0	.54	.46	.41	.53	.46	.41	.52	.45	.40	.50	.44	.40	.49	.44	.40	.38
9.0	.50	.42	.37	.49	.42	.37	.48	.41	.37	.47	.41	.37	.46	.40	.36	.35
10.0	.46	.39	.34	.46	.39	.34	.45	.38	.34	.44	.38	.34	.43	.37	.33	.32



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

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	.254	.145	.046	.247	.141	.045	.234	.134	.043	.221	.128	.041	.210	.122	.039	
2.0	.244	.134	.041	.238	.131	.040	.226	.126	.039	.215	.121	.038	.205	.116	.037	
3.0	.230	.123	.037	.225	.120	.036	.214	.116	.035	.205	.112	.034	.196	.109	.034	
4.0	.216	.112	.033	.211	.110	.033	.202	.107	.032	.194	.104	.031	.186	.101	.031	
5.0	.202	.103	.030	.198	.102	.030	.190	.099	.029	.183	.096	.029	.176	.094	.028	
6.0	.190	.095	.027	.186	.094	.027	.179	.092	.027	.172	.089	.026	.166	.087	.026	
7.0	.179	.088	.025	.175	.087	.025	.169	.085	.025	.163	.083	.024	.157	.082	.024	
8.0	.168	.082	.023	.165	.081	.023	.159	.080	.023	.154	.078	.023	.149	.076	.022	
9.0	.159	.077	.021	.156	.076	.021	.151	.075	.021	.146	.073	.021	.141	.072	.021	
10.0	.150	.072	.020	.148	.071	.020	.143	.070	.020	.139	.069	.020	.135	.068	.019	

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	.197	.197	.197	.168	.168	.168	.115	.115	.115	.066	.066	.066	.021	.021	.021	
1.0	.183	.163	.145	.156	.140	.125	.107	.096	.086	.062	.056	.050	.020	.018	.016	
2.0	.172	.139	.110	.148	.119	.095	.101	.083	.066	.058	.048	.039	.019	.016	.013	
3.0	.163	.120	.086	.140	.104	.075	.096	.072	.053	.055	.042	.031	.018	.014	.010	
4.0	.155	.107	.070	.133	.092	.061	.092	.064	.043	.053	.038	.025	.017	.012	.008	
5.0	.148	.096	.058	.127	.083	.050	.087	.058	.036	.051	.034	.021	.016	.011	.007	
6.0	.141	.087	.049	.121	.076	.043	.083	.053	.030	.048	.031	.018	.016	.010	.006	
7.0	.134	.080	.042	.116	.070	.037	.080	.049	.026	.046	.029	.016	.015	.009	.005	
8.0	.128	.074	.037	.110	.065	.033	.076	.045	.023	.044	.027	.014	.014	.009	.005	
9.0	.123	.069	.034	.106	.060	.029	.073	.042	.021	.043	.025	.012	.014	.008	.004	
10.0	.117	.065	.030	.101	.057	.027	.070	.040	.019	.041	.024	.011	.013	.008	.004	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm										
NAME:					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:1		
MFR.:					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	23.8	25.1	24.1	25.3	25.6	26.3	27.6	26.6	27.8	28.1
3H	24.0	25.2	24.3	25.4	25.6	27.2	28.4	27.5	28.6	28.9
4H	23.9	25.0	24.2	25.3	25.5	27.4	28.6	27.7	28.8	29.1
6H	23.8	24.9	24.1	25.1	25.4	27.6	28.7	27.9	28.9	29.2
8H	23.7	24.8	24.1	25.1	25.4	27.6	28.7	28.0	28.9	29.2
12H	23.7	24.7	24.0	25.0	25.3	27.6	28.6	28.0	28.9	29.2
4H 2H	24.5	25.6	24.8	25.9	26.1	26.5	27.7	26.8	27.9	28.2
3H	24.8	25.8	25.1	26.1	26.4	27.5	28.5	27.8	28.8	29.1
4H	24.7	25.6	25.1	25.9	26.3	27.8	28.7	28.2	29.1	29.4
6H	24.6	25.4	25.0	25.8	26.2	28.0	28.8	28.4	29.2	29.6
8H	24.6	25.3	25.0	25.7	26.1	28.1	28.8	28.5	29.2	29.6
12H	24.5	25.2	25.0	25.6	26.0	28.1	28.8	28.5	29.2	29.6
8H 4H	24.8	25.6	25.2	25.9	26.3	27.8	28.5	28.2	28.9	29.3
6H	24.7	25.3	25.2	25.8	26.2	28.0	28.6	28.4	29.0	29.5
8H	24.7	25.2	25.2	25.7	26.1	28.1	28.6	28.5	29.0	29.5
12H	24.6	25.1	25.1	25.6	26.1	28.1	28.6	28.6	29.1	29.5
12H 4H	24.8	25.5	25.2	25.9	26.3	27.7	28.4	28.2	28.8	29.2
6H	24.7	25.2	25.2	25.7	26.1	28.0	28.5	28.4	28.9	29.4
8H	24.7	25.1	25.2	25.6	26.1	28.0	28.5	28.5	29.0	29.4
Variations with the observer position at spacings:										
S = 1.0H	+ 0.9 / - 1.2					+ 0.3 / - 0.4				
1.5H	+ 0.6 / - 1.2					+ 0.3 / - 0.4				
2.0H	+ 0.9 / - 2.9					+ 0.9 / - 0.9				

CIE Pub.117 Corrected 9845 lm Total Lamp Luminous Flux. (8log(F/F0) = 7.9)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	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	66	56	50	65	55	49	64	55	49	44
0.80	76	66	59	75	65	59	73	65	59	53
1.00	83	74	68	82	74	68	80	74	67	61
1.25	90	81	75	88	80	75	86	79	74	68
1.50	94	86	80	93	85	80	90	83	79	72
2.00	100	93	88	98	92	87	95	89	85	78
2.50	103	97	92	101	95	91	97	93	89	81
3.00	106	100	96	104	99	94	100	96	92	84
4.00	109	104	100	107	102	99	102	99	96	88
5.00	111	107	104	108	105	102	104	101	99	90
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:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

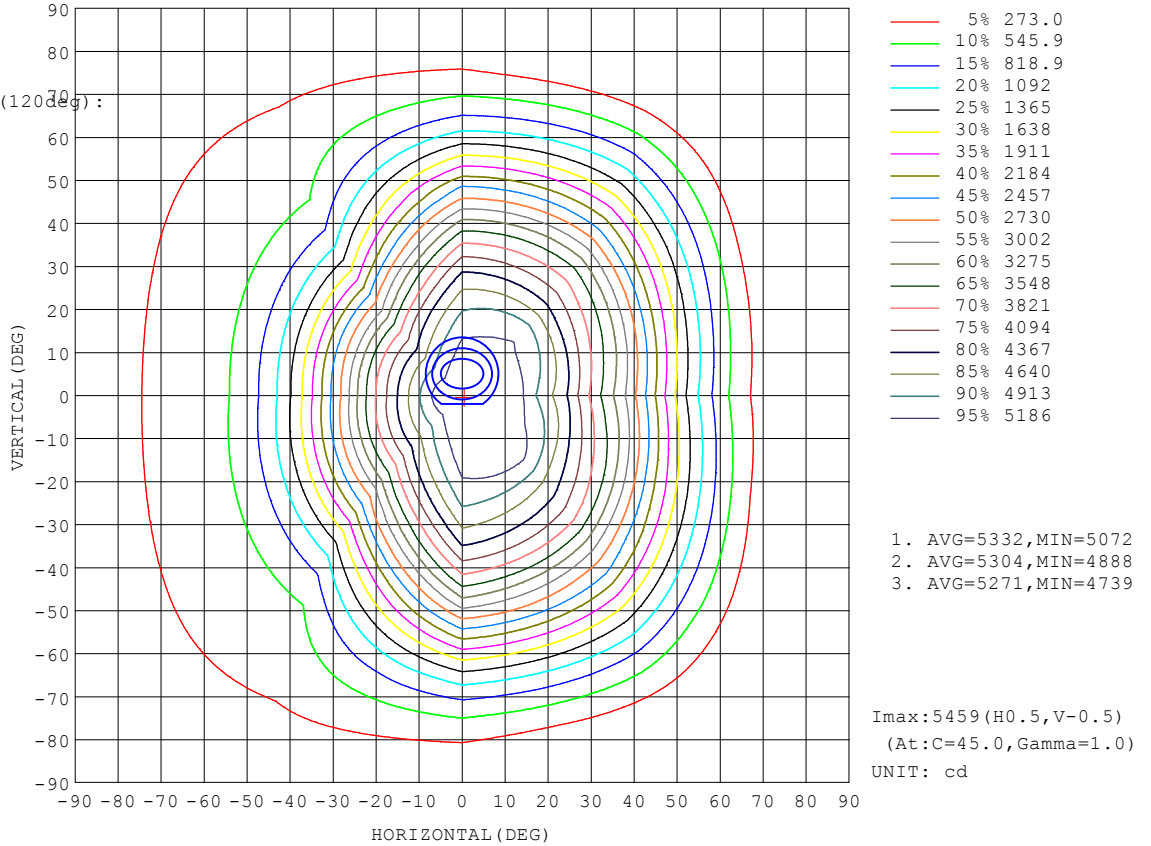
Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

Conical surface Flux(90deg):

6708 lm
 %lum = 68.1%
 %lamp = 68.1%

Conical surface Flux(120deg):

8703.9 lm
 %lum = 88.4%
 %lamp = 88.4%

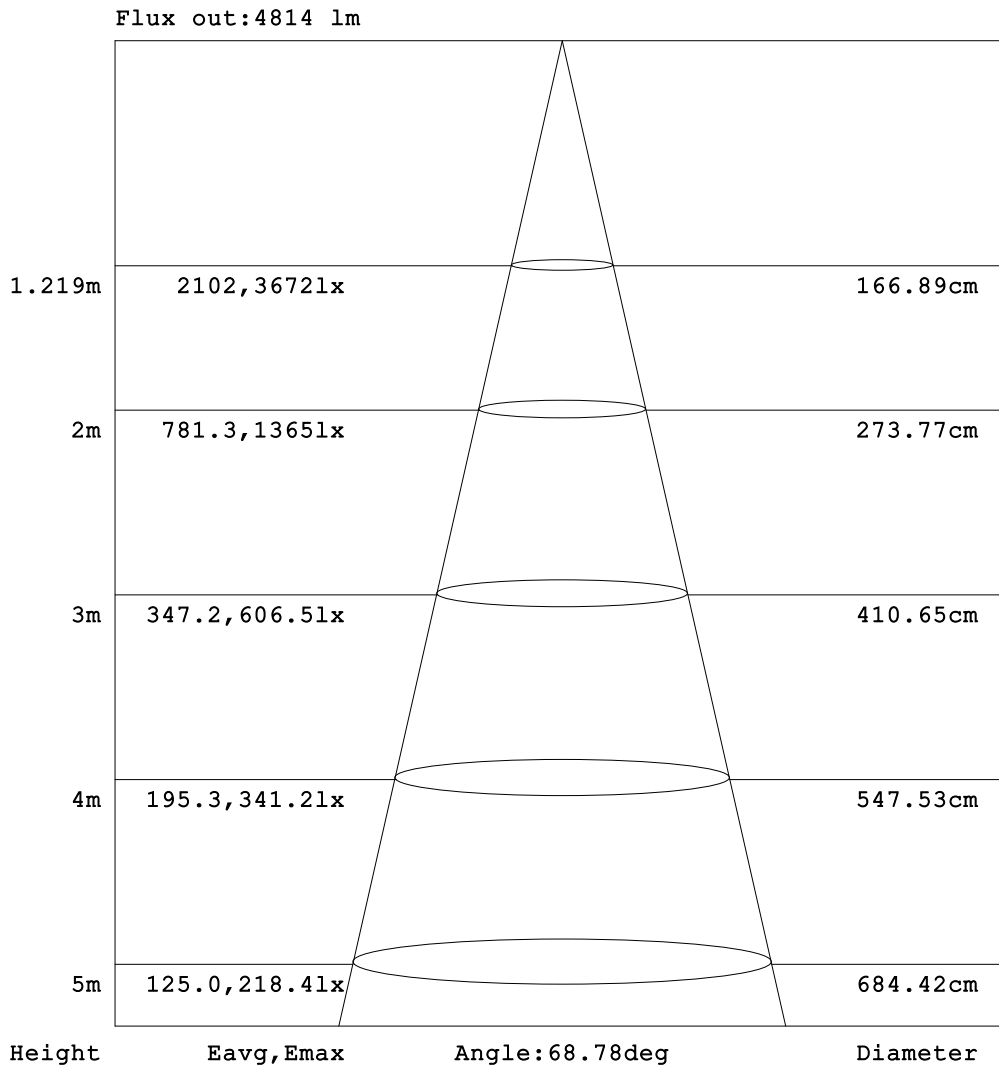


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

AAI Figure

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:



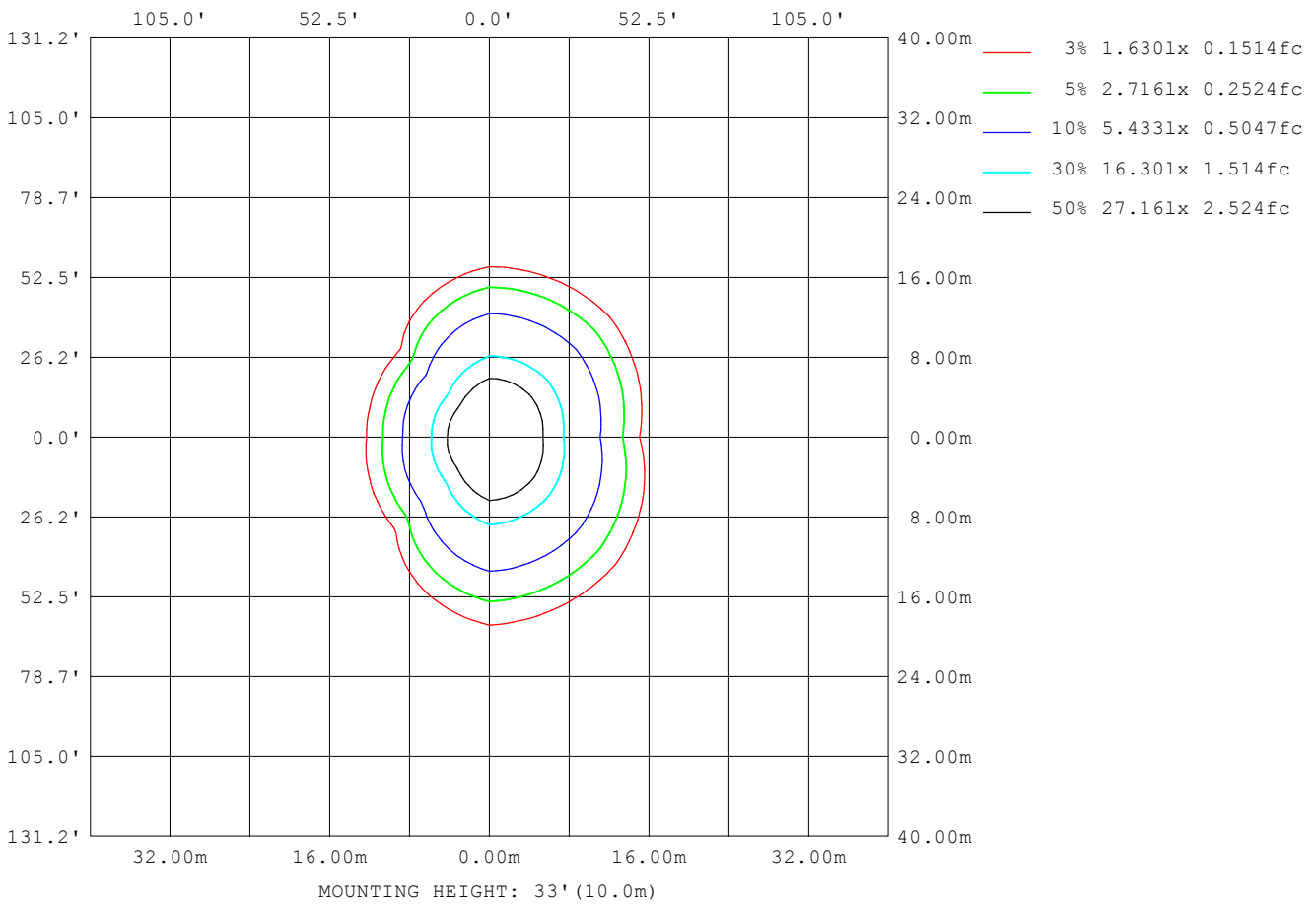
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

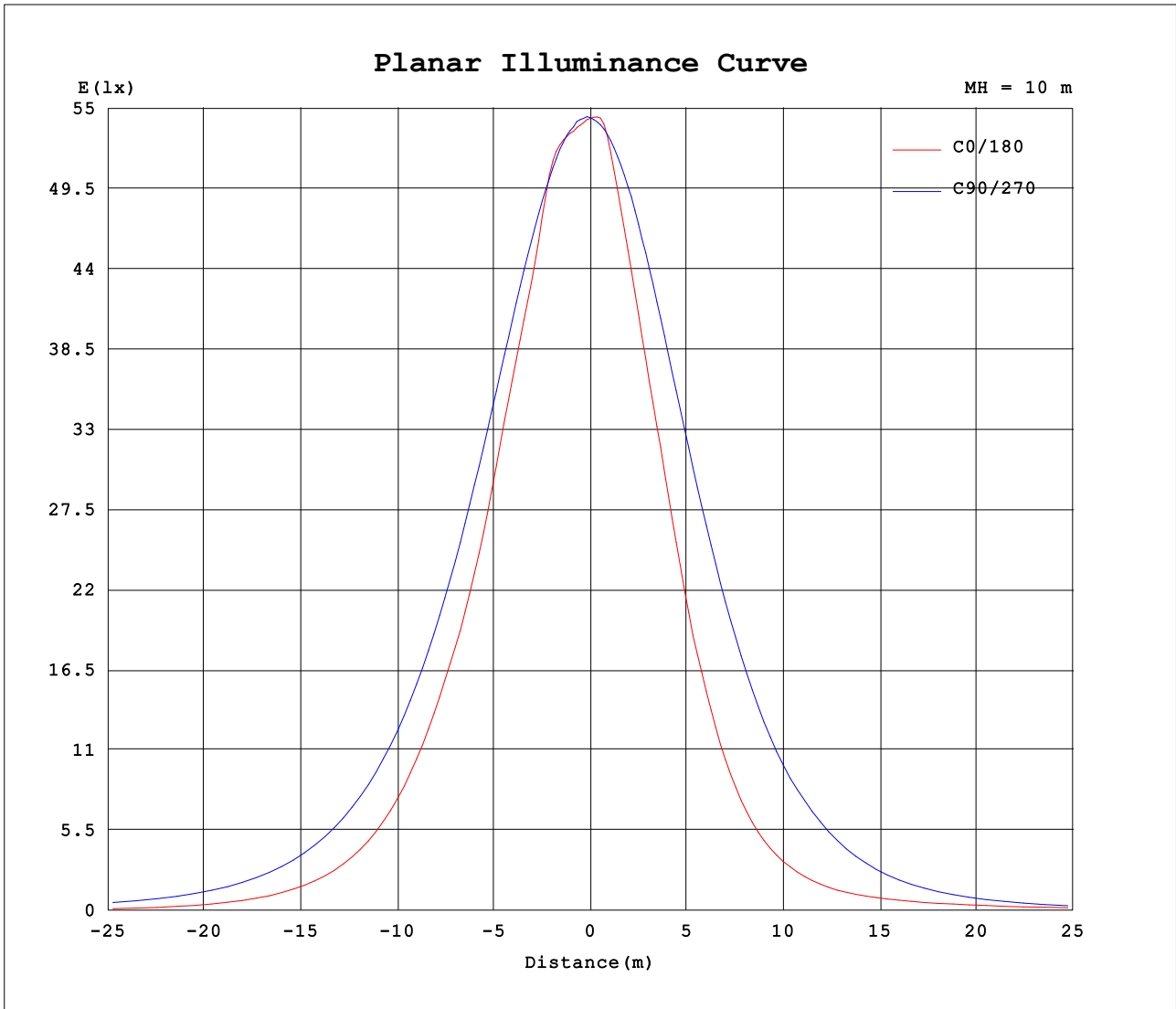
AvgL	cd/m2
L_0~180 (65) av	9083
L_0~180 (75) av	5219
L_0~180 (85) av	8651
L_90~270 (65) av	24969
L_90~270 (75) av	16370
L_90~270 (85) av	8761
L_45 (65) av	15505
L_45 (75) av	9438
L_45 (85) av	7816

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity: 65.0%
 Test Distance: 8.250m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.2V I:0.2860A P:80.50W PF:0.9670 Lamp Flux:9844.62x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.:	SUR.:	Shielding Angle:

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	45	90	135	180	225	270	315											
0	5433	5458	5437	5459	5433	5458	5437	5459											
5	5407	5436	5437	5278	5378	5230	5385	5411											
10	5452	5397	5399	4913	4890	4834	5278	5317											
15	5100	5360	5305	4513	4368	4361	5111	5241											
20	4715	5225	5155	4041	3826	3872	4894	5081											
25	4306	4817	4956	3498	3175	3251	4615	4690											
30	3770	4452	4688	2896	2518	2628	4272	4259											
35	3291	4088	4361	2320	1885	1985	3855	3863											
40	2770	3633	3966	1746	1346	1442	3367	3404											
45	2172	3081	3482	1259	953	1038	2821	2839											
50	1586	2572	2950	901	681	732	2292	2285											
55	1081	2042	2373	650	525	550	1723	1734											
60	675	1504	1805	503	448	448	1221	1217											
65	372	1025	1286	421	396	377	824	798											
70	125	627	877	354	329	315	523	435											
75	4.80	306	546	292	265	249	301	131											
80	2.44	45.0	303	221	204	176	139	4.79											
85	1.84	5.21	123	151	149	113	29.4	3.44											
90	1.99	3.76	16.1	84.6	98.6	52.0	6.60	3.28											
95	2.68	3.29	4.90	26.8	51.2	7.70	9.93	4.18											
100	3.70	3.77	7.44	5.86	7.00	10.3	14.7	5.83											
105	5.00	5.06	11.3	9.71	6.90	16.0	20.9	8.07											
110	6.64	6.96	16.5	15.1	11.4	22.8	28.3	11.0											
115	8.76	9.56	23.0	21.8	17.4	31.0	36.8	14.7											
120	11.7	13.1	30.6	29.9	25.1	40.2	45.8	19.5											
125	15.6	17.7	38.9	38.7	34.1	50.0	55.0	25.6											
130	20.7	23.6	47.4	48.0	43.9	59.8	63.8	32.9											
135	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											
145	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00											

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:24 August 2019

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.295
 Humidity:65.0%
 Test Distance:8.250m [K=1.0000]
 Remarks: