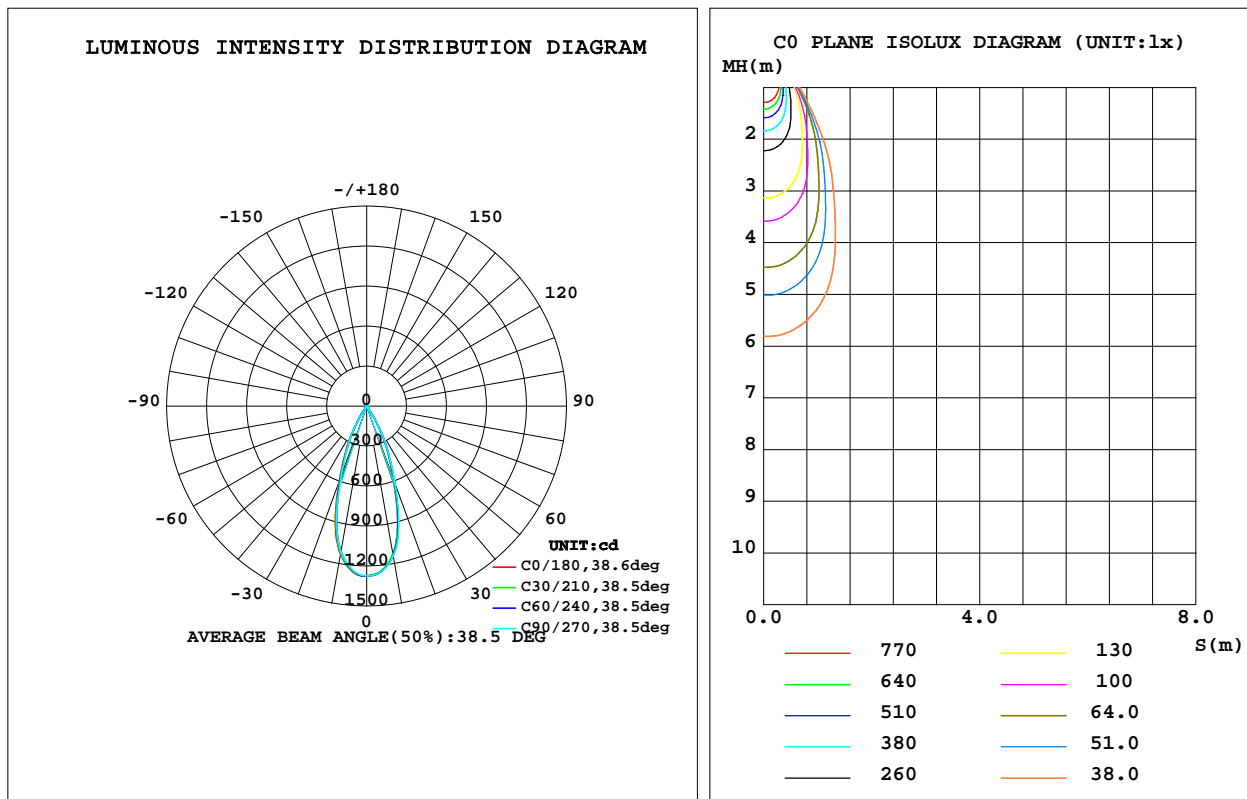


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 63.30 lm/W			
MODEL	CL76-3-10W-P2	I _{max} (cd)	1278	S/MH(C0/180)	0.63
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.61
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	583.64	η UP, DN(C0-180)	0.0, 48.6
NOMINAL FLUX(lm)	583.644	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 51.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE(V)	240.1	η down(%)	100.0	CIBSE SHR MAX	0.65



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [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	1131	1116	1112	1122	1131	1137	1143	1147	0- 10	115.1	115.1	19.7,19.7
20	606.0	585.0	564.4	563.9	591.2	609.8	626.1	630.1	10- 20	243.8	358.9	61.5,61.5
30	182.2	166.6	163.4	163.4	180.9	189.4	201.4	195.7	20- 30	167.8	526.7	90.2,90.2
40	14.24	13.84	13.20	13.29	13.47	14.20	14.93	15.61	30- 40	35.97	562.6	96.4,96.4
50	8.639	8.465	8.374	8.565	8.609	8.827	8.899	9.037	40- 50	8.483	571.1	97.9,97.9
60	5.143	5.019	4.902	4.983	5.050	5.175	5.247	5.342	50- 60	6.080	577.2	98.9,98.9
70	3.161	3.007	2.853	2.884	2.912	2.987	3.121	3.275	60- 70	3.904	581.1	99.6,99.6
80	1.528	1.065	0.8404	0.7784	1.098	1.189	1.489	1.278	70- 80	2.361	583.5	100,100
90	0	0	0	0	0	0	0	0	80- 90	0.1809	583.6	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

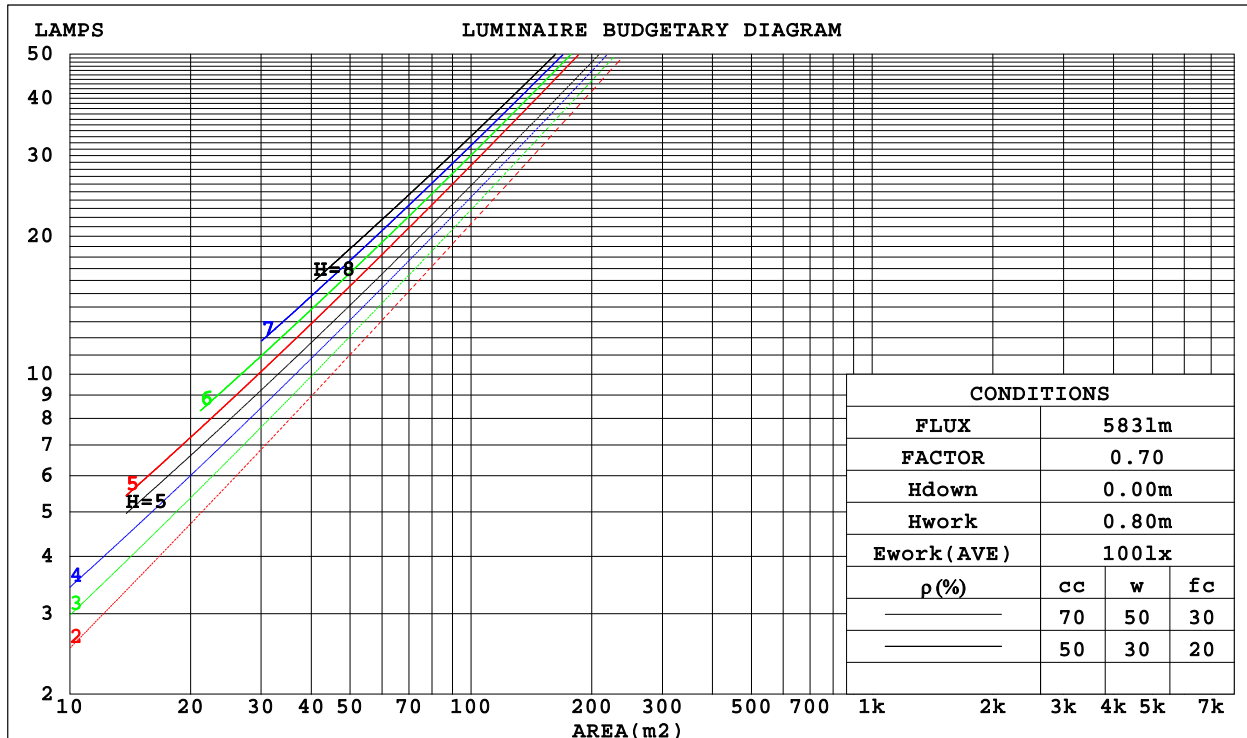
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION 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	1.02	1.02	1.02	.00
1.0	1.12	1.10	1.08	1.10	1.08	1.06	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97	.95
2.0	1.05	1.02	.99	1.04	1.01	.98	1.01	.98	.96	.98	.96	.94	.95	.93	.92	.90
3.0	.00	.95	.92	.98	.94	.91	.96	.93	.90	.93	.91	.89	.91	.89	.87	.86
4.0	.95	.90	.86	.94	.89	.86	.92	.88	.85	.90	.86	.84	.88	.85	.83	.82
5.0	.90	.85	.82	.89	.85	.81	.88	.84	.81	.86	.83	.80	.85	.82	.79	.78
6.0	.86	.81	.77	.85	.81	.77	.84	.80	.77	.83	.79	.76	.81	.78	.76	.74
7.0	.82	.77	.74	.82	.77	.74	.80	.76	.73	.79	.76	.73	.78	.75	.72	.71
8.0	.79	.74	.70	.78	.74	.70	.77	.73	.70	.76	.72	.70	.75	.72	.69	.68
9.0	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.70	.67	.73	.69	.67	.66
10.0	.73	.68	.65	.72	.68	.65	.72	.67	.64	.71	.67	.64	.70	.67	.64	.63



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:

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	.158	.090	.028	.151	.086	.027	.139	.080	.025	.127	.073	.024	.117	.068	.022	
2.0	.148	.081	.025	.143	.079	.024	.132	.074	.023	.123	.069	.022	.114	.064	.020	
3.0	.140	.074	.022	.135	.072	.022	.126	.068	.021	.118	.065	.020	.110	.061	.019	
4.0	.132	.068	.020	.128	.067	.020	.120	.064	.019	.113	.061	.018	.107	.058	.018	
5.0	.125	.064	.018	.121	.062	.018	.115	.060	.018	.109	.057	.017	.103	.055	.017	
6.0	.119	.059	.017	.116	.058	.017	.110	.056	.016	.105	.054	.016	.100	.053	.016	
7.0	.113	.056	.016	.110	.055	.016	.105	.053	.015	.101	.052	.015	.097	.050	.015	
8.0	.108	.053	.015	.106	.052	.015	.101	.051	.014	.097	.049	.014	.093	.048	.014	
9.0	.103	.050	.014	.101	.049	.014	.098	.048	.014	.094	.047	.013	.090	.046	.013	
10.0	.099	.048	.013	.097	.047	.013	.094	.046	.013	.091	.045	.013	.088	.044	.013	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.170	.157	.146	.145	.135	.126	.099	.093	.087	.057	.054	.051	.018	.017	.016	
2.0	.153	.133	.115	.131	.114	.100	.090	.079	.070	.052	.046	.041	.017	.015	.013	
3.0	.139	.113	.093	.119	.098	.080	.082	.068	.056	.047	.040	.033	.015	.013	.011	
4.0	.128	.098	.076	.110	.085	.066	.075	.059	.046	.044	.035	.027	.014	.011	.009	
5.0	.118	.086	.063	.102	.075	.055	.070	.052	.039	.041	.031	.023	.013	.010	.008	
6.0	.110	.077	.053	.095	.066	.046	.065	.047	.033	.038	.027	.019	.012	.009	.006	
7.0	.103	.069	.045	.089	.060	.039	.061	.042	.028	.036	.025	.017	.011	.008	.005	
8.0	.097	.062	.039	.083	.054	.034	.058	.038	.024	.034	.022	.014	.011	.007	.005	
9.0	.092	.057	.034	.079	.049	.029	.055	.035	.021	.032	.021	.012	.010	.007	.004	
10.0	.087	.052	.029	.075	.045	.026	.052	.032	.018	.030	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm										
NAME: CL76-3-10W-P2					TYPE:10W			WEIGHT:		
DIM.:					SPEC.:2000-2800K			SERIAL No.:1		
MFR.:					SUR.:0.025			PROTECTION 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	15.3	16.1	15.5	16.3	16.4	14.7	15.5	14.9	15.6	15.8
3H	15.8	16.5	16.0	16.7	16.9	15.1	15.9	15.4	16.0	16.2
4H	16.1	16.8	16.3	17.0	17.2	15.4	16.1	15.7	16.3	16.5
6H	16.3	17.0	16.6	17.2	17.5	15.5	16.2	15.8	16.4	16.7
8H	16.3	17.0	16.6	17.2	17.5	15.5	16.1	15.8	16.4	16.6
12H	16.3	16.9	16.6	17.2	17.4	15.5	16.1	15.8	16.3	16.6
4H 2H	15.4	16.1	15.6	16.3	16.5	14.8	15.5	15.0	15.7	15.9
3H	16.0	16.6	16.3	16.9	17.1	15.4	16.0	15.7	16.3	16.6
4H	16.4	17.0	16.8	17.3	17.6	15.8	16.4	16.1	16.6	17.0
6H	16.9	17.3	17.2	17.7	18.0	16.0	16.5	16.4	16.8	17.2
8H	16.8	17.3	17.2	17.6	18.0	16.0	16.4	16.4	16.8	17.1
12H	16.8	17.2	17.2	17.6	18.0	15.9	16.3	16.3	16.7	17.1
8H 4H	16.5	17.0	16.9	17.3	17.7	15.9	16.4	16.3	16.7	17.1
6H	17.0	17.4	17.4	17.8	18.2	16.2	16.6	16.6	16.9	17.4
8H	17.0	17.3	17.4	17.7	18.2	16.1	16.5	16.6	16.9	17.3
12H	16.9	17.2	17.4	17.7	18.1	16.1	16.3	16.5	16.8	17.3
12H 4H	16.5	16.9	16.9	17.3	17.7	15.9	16.3	16.3	16.7	17.1
6H	17.0	17.3	17.4	17.7	18.2	16.2	16.5	16.6	16.9	17.3
8H	17.0	17.2	17.4	17.7	18.1	16.1	16.4	16.6	16.8	17.3
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.5				
1.5H	+ 0.3 / - 0.2					+ 0.2 / - 0.2				
2.0H	+ 0.5 / - 0.5					+ 0.6 / - 0.7				

CIE Pub.117 Corrected 583.6 lm Total Lamp Luminous Flux.(8log(F/F0) = -1.9)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:

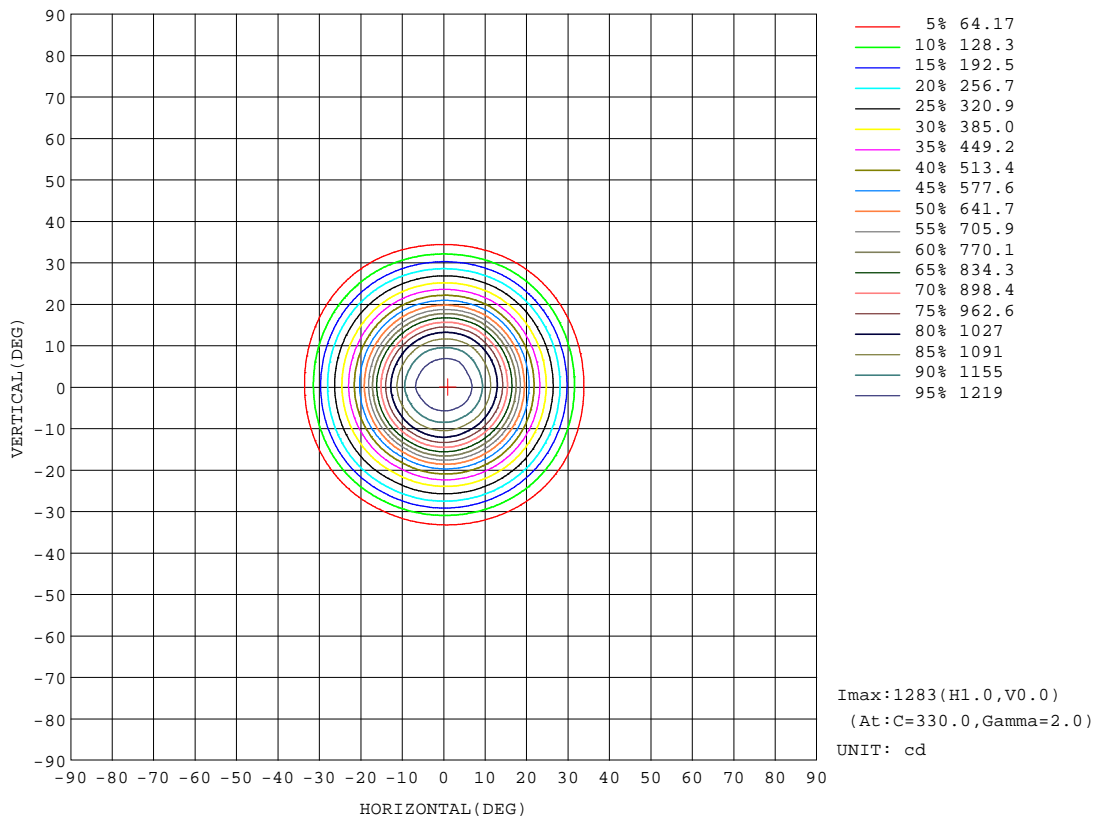
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	89	83	80	89	83	80	88	83	80	76
0.80	96	91	87	96	91	87	95	90	87	83
1.00	100	95	92	100	95	91	98	94	91	87
1.25	104	99	96	103	99	96	101	98	95	91
1.50	107	102	99	106	101	99	103	100	97	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	109	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: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:



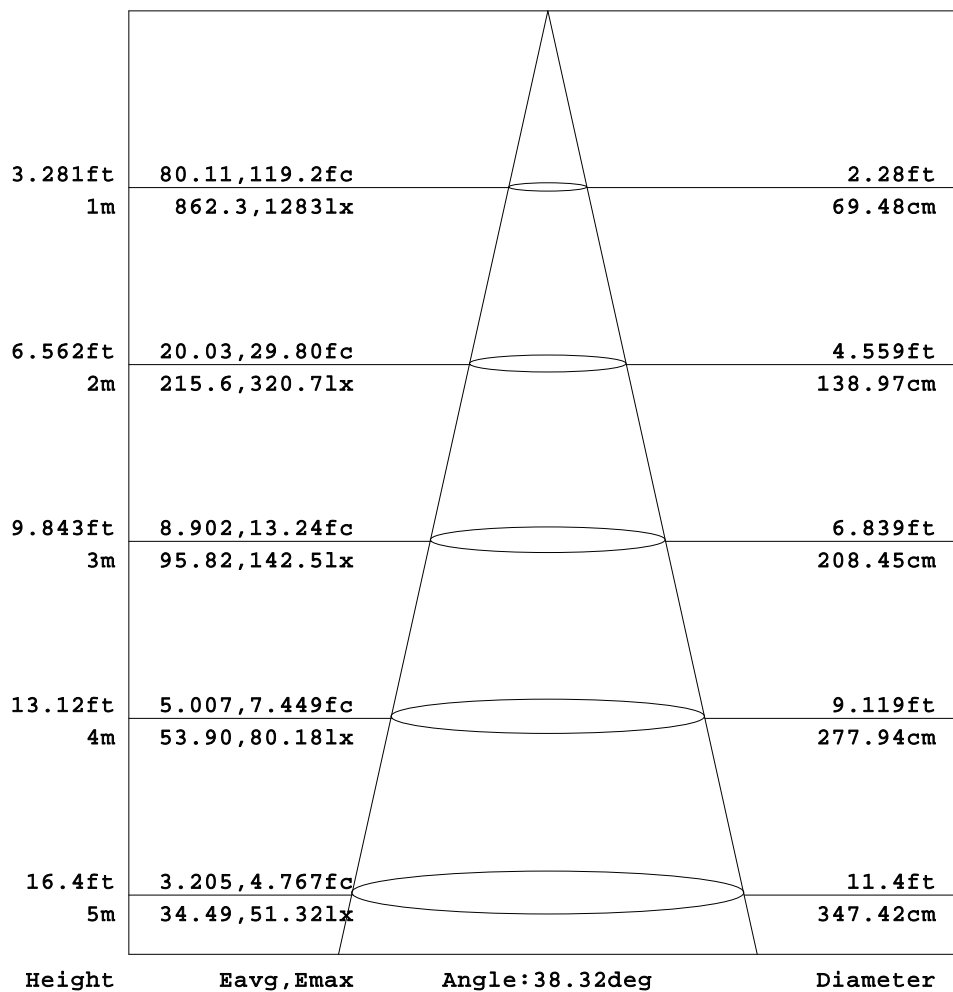
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

AAI Figure

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:

Flux out:358.9 lm



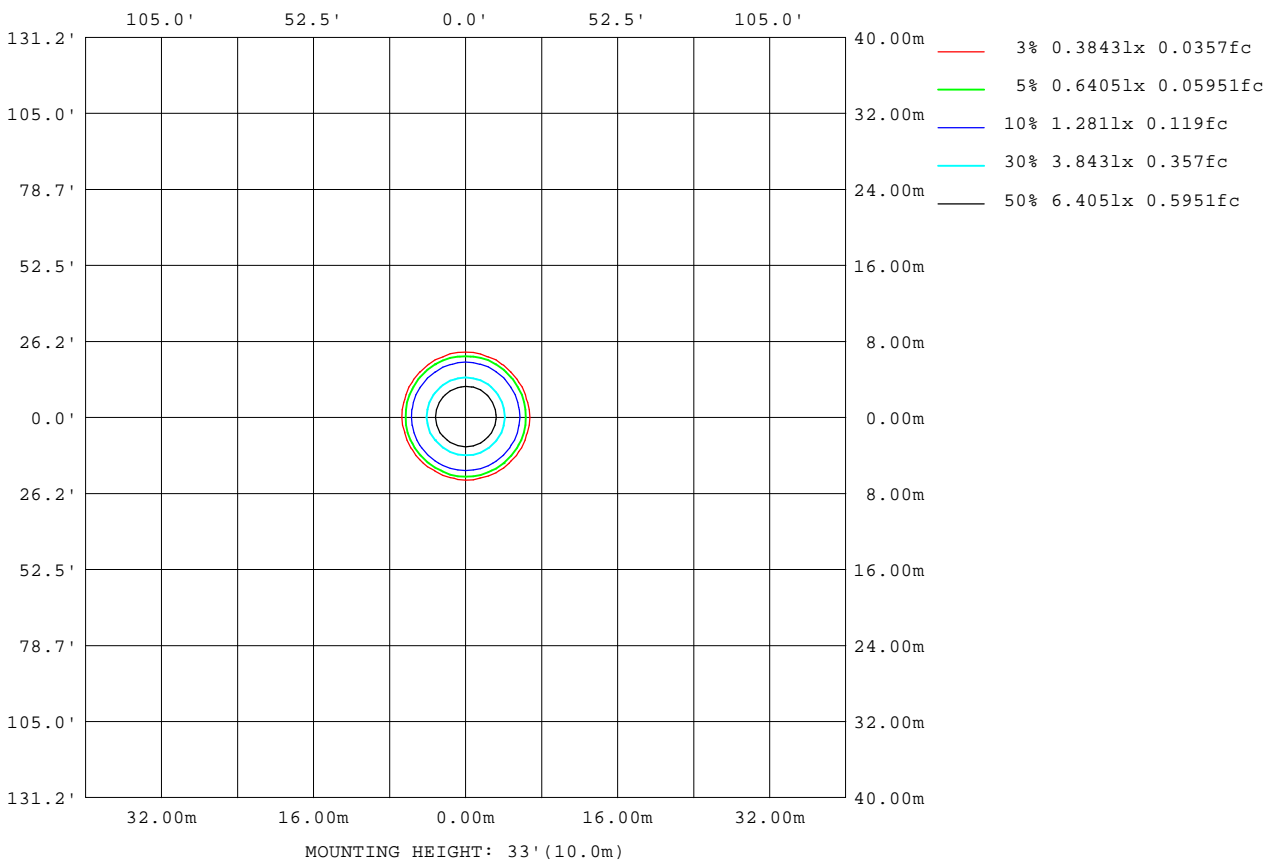
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

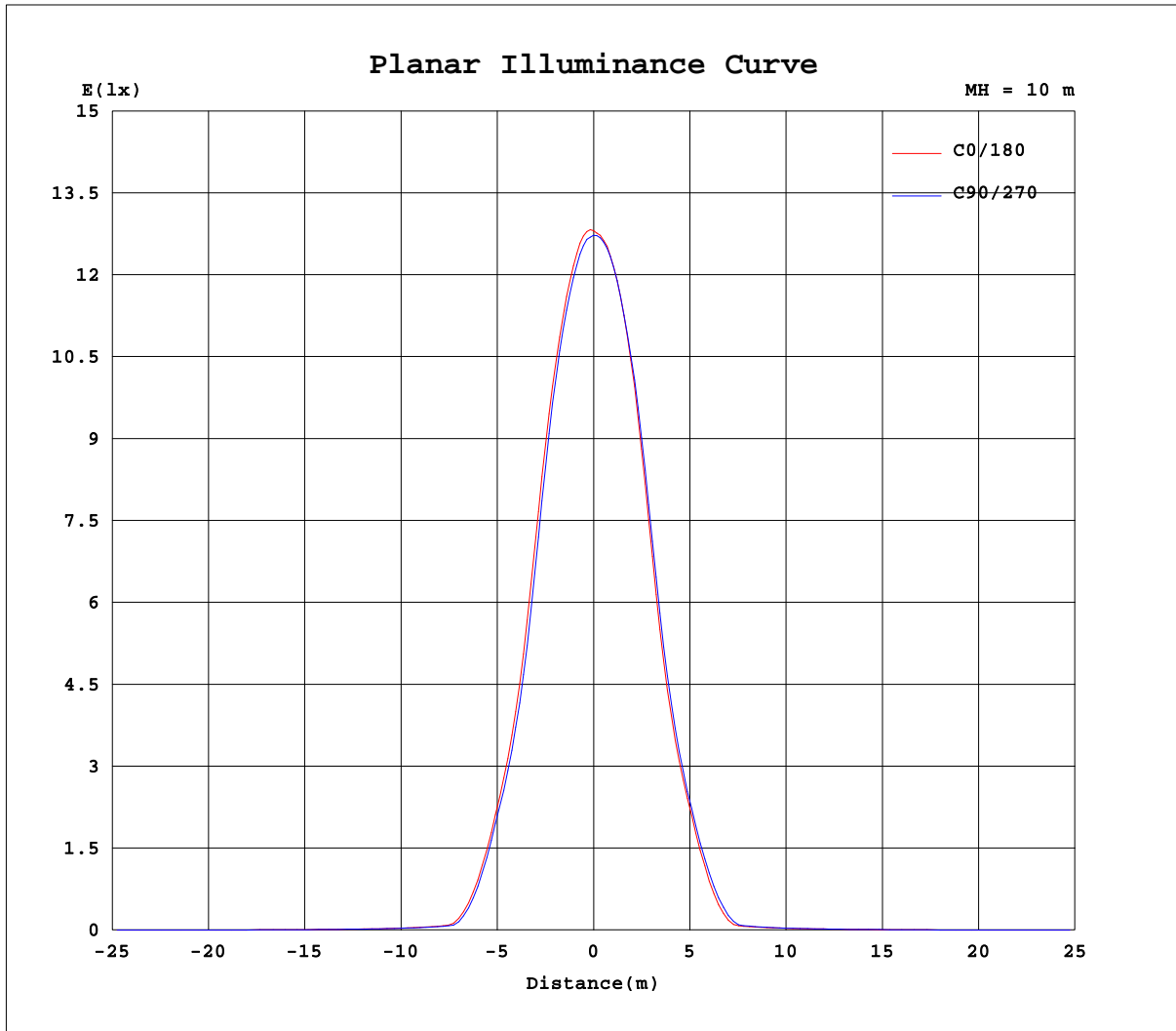
Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 9.600m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:240.1V I:0.0410A P:9.220W PF:0.9310 Lamp Flux:583.644x1 lm		
NAME: CL76-3-10W-P2	TYPE:10W	WEIGHT:
DIM.:	SPEC.:2000-2800K	SERIAL No.:1
MFR.:	SUR.:0.025	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274	1274							
5	1247	1242	1236	1234	1238	1240	1242	1244	1247	1250	1254	1251							
10	1131	1122	1110	1112	1118	1126	1131	1132	1142	1143	1152	1143							
15	916	893	874	874	869	892	902	903	918	936	951	939							
20	606	593	577	564	552	575	591	601	618	626	638	622							
25	373	360	350	345	340	356	367	370	383	391	395	382							
30	182	169	164	163	158	169	181	184	195	201	202	190							
35	39.6	36.7	32.0	28.6	25.0	28.4	33.8	40.1	49.5	49.7	47.1	40.8							
40	14.2	14.2	13.5	13.2	13.2	13.4	13.5	14.1	14.3	14.9	15.8	15.4							
45	10.7	10.6	10.4	10.3	10.4	10.6	10.6	10.9	11.1	11.3	11.5	11.4							
50	8.64	8.54	8.39	8.37	8.48	8.65	8.61	8.77	8.89	8.90	9.05	9.02							
55	6.76	6.65	6.50	6.48	6.55	6.73	6.68	6.74	6.88	6.92	7.06	7.01							
60	5.14	5.09	4.95	4.90	4.92	5.05	5.05	5.12	5.23	5.25	5.34	5.35							
65	3.96	3.91	3.76	3.67	3.70	3.77	3.77	3.85	3.92	4.01	4.09	4.14							
70	3.16	3.06	2.96	2.85	2.84	2.92	2.91	2.96	3.02	3.12	3.24	3.31							
75	2.55	2.43	2.09	2.13	1.99	2.21	2.23	2.31	2.10	2.48	2.59	2.66							
80	1.53	1.34	0.79	0.84	0.58	0.98	1.10	1.20	1.18	1.49	0.88	1.68							
85	0.00	0.00	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							

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-11-23

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:9.600m [K=1.0000]
 Remarks: