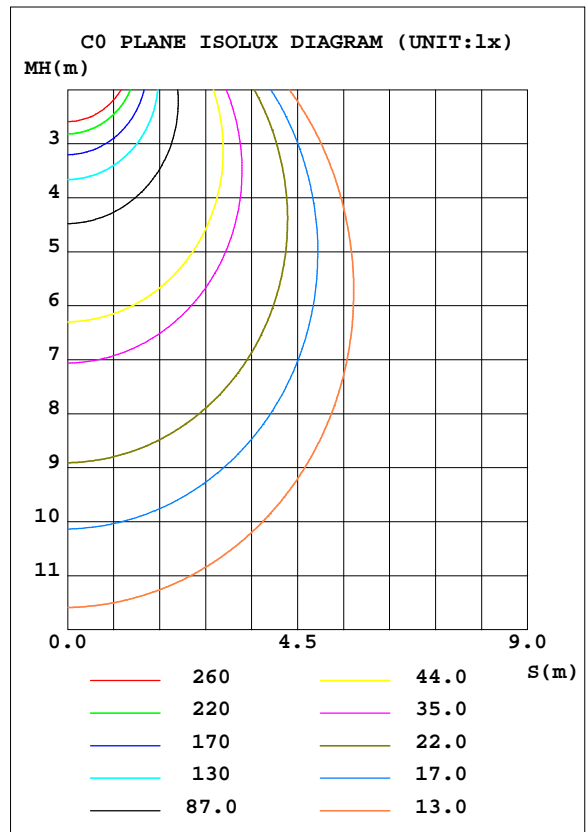
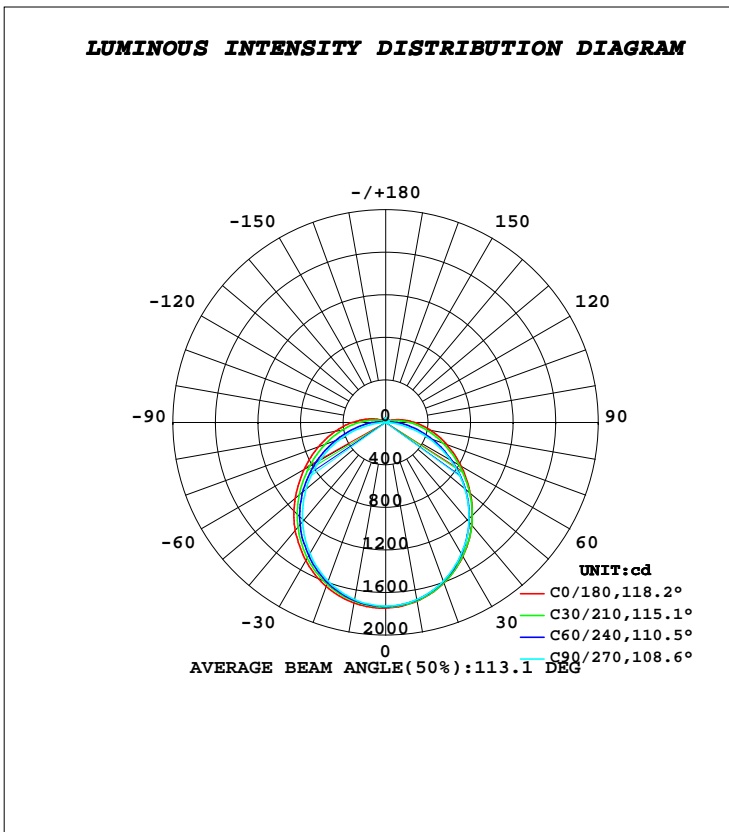


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 106.21 lm/W			
MODEL	1.5M-55W-4500K	I _{max} (cd)	1746	S/MH(C0/180)	1.24
NOMINAL POWER(W)	55	LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	5555.0	η UP, DN(C0-180)	2.7,46.4
NOMINAL FLUX(lm)	5555.04	CIE CLASS	DIRECT	η UP, DN(C180-360)	3.1,47.8
LAMPS INSIDE	1	η up(%)	5.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.1	η down(%)	94.2	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1705	1698	1691	1690	1723	1703	1690	1691	0- 10	163.6	163.6	2.95,2.95
20	1605	1597	1588	1593	1640	1609	1587	1595	10- 20	467.4	631.1	11.4,11.4
30	1453	1439	1424	1440	1501	1460	1426	1442	20- 30	705.2	1336	24.1,24.1
40	1259	1240	1220	1245	1326	1268	1217	1249	30- 40	847.6	2184	39.3,39.3
50	1040	1006	973.2	1012	1114	1041	977.6	1022	40- 50	879.6	3063	55.1,55.1
60	819.4	758.0	704.5	766.2	887.4	794.7	716.7	778.0	50- 60	804.8	3868	69.6,69.6
70	613.5	521.1	422.8	529.9	673.1	556.8	449.4	546.1	60- 70	650.3	4519	81.3,81.3
80	427.7	314.3	154.5	323.5	480.6	346.8	182.4	340.6	70- 80	452.8	4971	89.5,89.5
90	273.0	162.5	11.01	170.6	315.5	187.3	16.71	184.2	80- 90	261.3	5233	94.2,94.2
100	151.6	70.43	13.90	77.20	184.9	87.48	17.26	84.42	90-100	133.8	5366	96.6,96.6
110	69.21	31.15	17.14	34.28	91.23	39.95	19.94	37.24	100-110	62.44	5429	97.7,97.7
120	29.90	21.96	20.56	22.77	39.93	25.92	22.90	24.83	110-120	30.97	5460	98.3,98.3
130	27.97	25.18	24.29	26.16	30.65	28.07	26.13	26.98	120-130	22.86	5483	98.7,98.7
140	31.51	28.73	28.29	29.62	33.32	31.23	29.67	30.01	130-140	22.02	5505	99.1,99.1
150	34.80	32.23	32.16	33.08	35.25	34.27	33.33	33.14	140-150	19.95	5525	99.5,99.5
160	37.76	35.48	35.64	35.96	37.36	36.94	36.49	35.99	150-160	16.12	5541	99.7,99.7
170	40.47	38.20	38.44	38.37	38.92	38.77	38.74	38.11	160-170	10.61	5551	99.9,99.9
180	39.94	39.14	39.47	38.96	40.10	39.12	39.40	38.98	170-180	3.719	5555	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

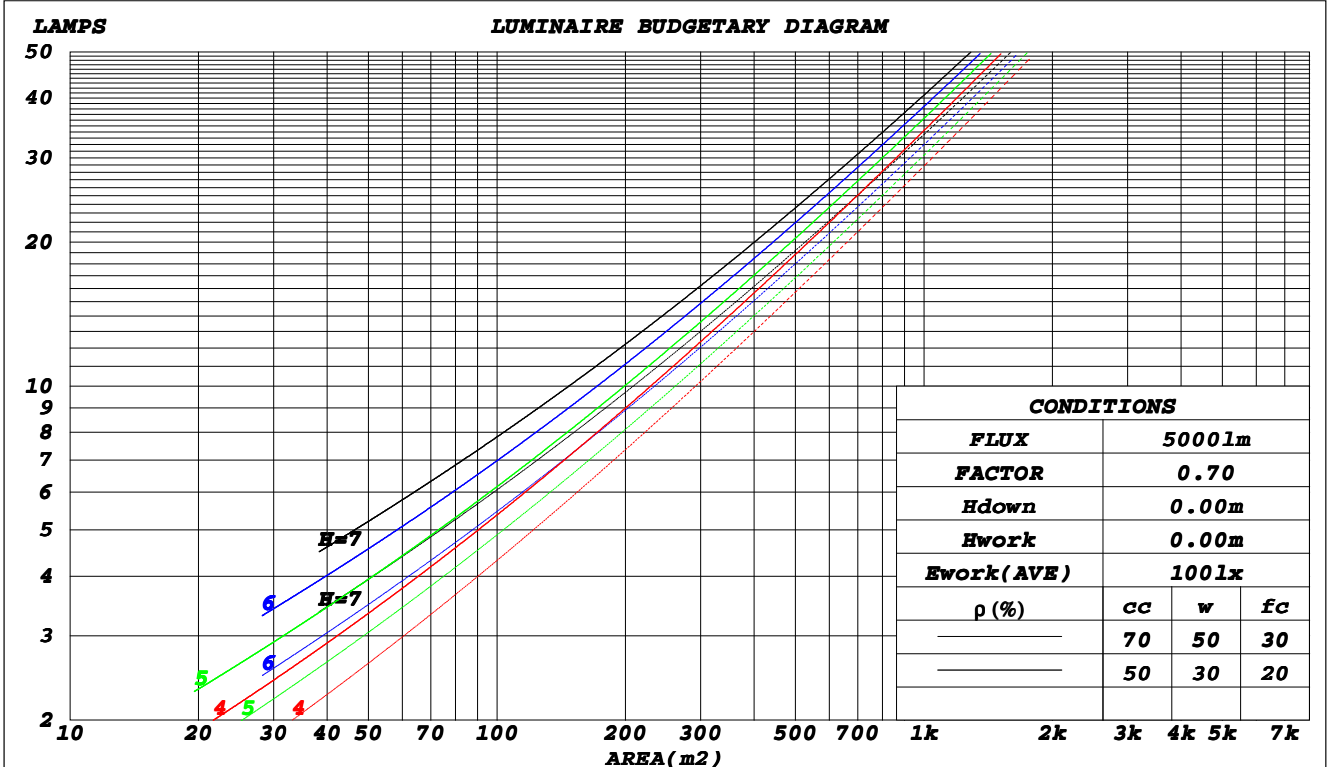
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04lx1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

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	1.18	1.18	1.18	1.14	1.14	1.14	1.08	1.08	1.08	1.02	1.02	1.02	.97	.97	.97	.94
1.0	1.01	.96	.92	.98	.93	.89	.92	.89	.86	.87	.85	.82	.83	.81	.78	.76
2.0	.87	.80	.74	.85	.78	.72	.80	.75	.70	.76	.71	.67	.72	.68	.65	.62
3.0	.76	.68	.61	.74	.66	.60	.70	.64	.58	.67	.61	.56	.63	.59	.55	.52
4.0	.67	.58	.51	.66	.57	.51	.62	.55	.49	.59	.53	.48	.56	.51	.47	.44
5.0	.60	.51	.44	.59	.50	.43	.56	.48	.42	.53	.47	.41	.51	.45	.40	.38
6.0	.54	.45	.38	.53	.44	.38	.50	.43	.37	.48	.41	.36	.46	.40	.35	.33
7.0	.49	.40	.34	.48	.39	.33	.46	.38	.33	.44	.37	.32	.42	.36	.31	.29
8.0	.45	.36	.30	.44	.35	.30	.42	.34	.29	.40	.33	.29	.38	.33	.28	.26
9.0	.41	.33	.27	.40	.32	.27	.38	.31	.26	.37	.30	.26	.36	.30	.25	.23
10.0	.38	.30	.24	.37	.29	.24	.36	.29	.24	.34	.28	.23	.33	.27	.23	.21



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

WEC AND CCEC

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.345	.196	.062	.336	.192	.061	.319	.183	.058	.304	.175	.056	.290	.168	.054	
2.0	.310	.170	.052	.303	.167	.051	.288	.160	.050	.274	.154	.048	.261	.148	.047	
3.0	.281	.150	.045	.274	.147	.044	.261	.141	.043	.249	.136	.042	.237	.131	.041	
4.0	.257	.133	.039	.250	.131	.039	.238	.126	.038	.227	.122	.037	.217	.118	.036	
5.0	.235	.120	.035	.230	.118	.034	.219	.114	.034	.209	.110	.033	.200	.107	.032	
6.0	.217	.109	.031	.212	.107	.031	.202	.104	.030	.193	.100	.030	.185	.097	.029	
7.0	.201	.099	.028	.197	.098	.028	.188	.095	.027	.180	.092	.027	.172	.089	.026	
8.0	.187	.092	.026	.183	.090	.025	.175	.088	.025	.168	.085	.025	.161	.083	.024	
9.0	.175	.085	.024	.171	.084	.023	.164	.081	.023	.158	.079	.023	.151	.077	.022	
10.0	.164	.079	.022	.161	.078	.022	.154	.076	.021	.148	.074	.021	.142	.072	.021	

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.235	.235	.235	.201	.201	.201	.137	.137	.137	.079	.079	.079	.025	.025	.025	
1.0	.227	.200	.176	.195	.172	.152	.133	.118	.105	.077	.068	.061	.025	.022	.020	
2.0	.220	.177	.141	.188	.152	.122	.129	.105	.085	.074	.061	.050	.024	.020	.016	
3.0	.212	.160	.118	.182	.138	.102	.125	.096	.072	.072	.056	.042	.023	.018	.014	
4.0	.204	.146	.103	.175	.127	.089	.120	.088	.063	.070	.052	.037	.022	.017	.012	
5.0	.196	.136	.092	.169	.118	.080	.116	.082	.056	.067	.048	.033	.022	.016	.011	
6.0	.189	.128	.084	.162	.111	.073	.112	.078	.052	.065	.046	.031	.021	.015	.010	
7.0	.182	.121	.079	.157	.105	.069	.108	.074	.049	.063	.043	.029	.020	.014	.010	
8.0	.175	.116	.074	.151	.100	.065	.105	.070	.046	.061	.041	.027	.020	.014	.009	
9.0	.169	.111	.071	.146	.096	.062	.101	.067	.044	.059	.040	.026	.019	.013	.009	
10.0	.164	.106	.068	.141	.092	.060	.098	.065	.042	.057	.038	.025	.018	.013	.008	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7063]
 Remarks:

Uncorrected UGR Table

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

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	22.5	24.0	22.9	24.3	24.7	21.9	23.4	22.3	23.7	24.0
3H	24.5	25.9	24.9	26.2	26.6	23.3	24.7	23.7	25.1	25.4
4H	25.6	26.9	26.0	27.2	27.6	23.9	25.2	24.3	25.6	25.9
6H	26.6	27.9	27.1	28.3	28.7	24.3	25.5	24.7	25.9	26.3
8H	27.2	28.4	27.7	28.8	29.2	24.3	25.5	24.8	25.9	26.3
12H	27.9	29.0	28.3	29.4	29.9	24.4	25.5	24.8	25.9	26.3
4H 2H	23.1	24.4	23.5	24.8	25.1	22.6	23.9	23.0	24.3	24.6
3H	25.3	26.5	25.8	26.9	27.3	24.2	25.4	24.7	25.8	26.2
4H	26.5	27.6	27.0	28.0	28.5	24.9	26.0	25.4	26.4	26.9
6H	27.8	28.8	28.3	29.2	29.7	25.5	26.4	25.9	26.8	27.3
8H	28.5	29.4	29.0	29.9	30.4	25.6	26.5	26.1	27.0	27.5
12H	29.3	30.1	29.8	30.6	31.1	25.7	26.5	26.2	27.0	27.5
8H 4H	26.8	27.7	27.3	28.2	28.7	25.5	26.3	26.0	26.8	27.3
6H	28.4	29.1	28.9	29.6	30.2	26.2	26.9	26.7	27.4	28.0
8H	29.3	29.9	29.8	30.4	31.0	26.5	27.1	27.0	27.7	28.2
12H	30.3	30.9	30.8	31.4	32.0	26.7	27.3	27.2	27.8	28.4
12H 4H	26.8	27.6	27.4	28.1	28.7	25.6	26.4	26.1	26.9	27.4
6H	28.5	29.1	29.0	29.6	30.2	26.5	27.1	27.0	27.6	28.2
8H	29.4	30.0	30.0	30.6	31.2	26.8	27.4	27.4	28.0	28.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117 Corrected 5555 lm Total Lamp Luminous Flux.(8log(F/F0) = 6.0)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity:65.0%
 Test Distance:8.000m [K=0.7063]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

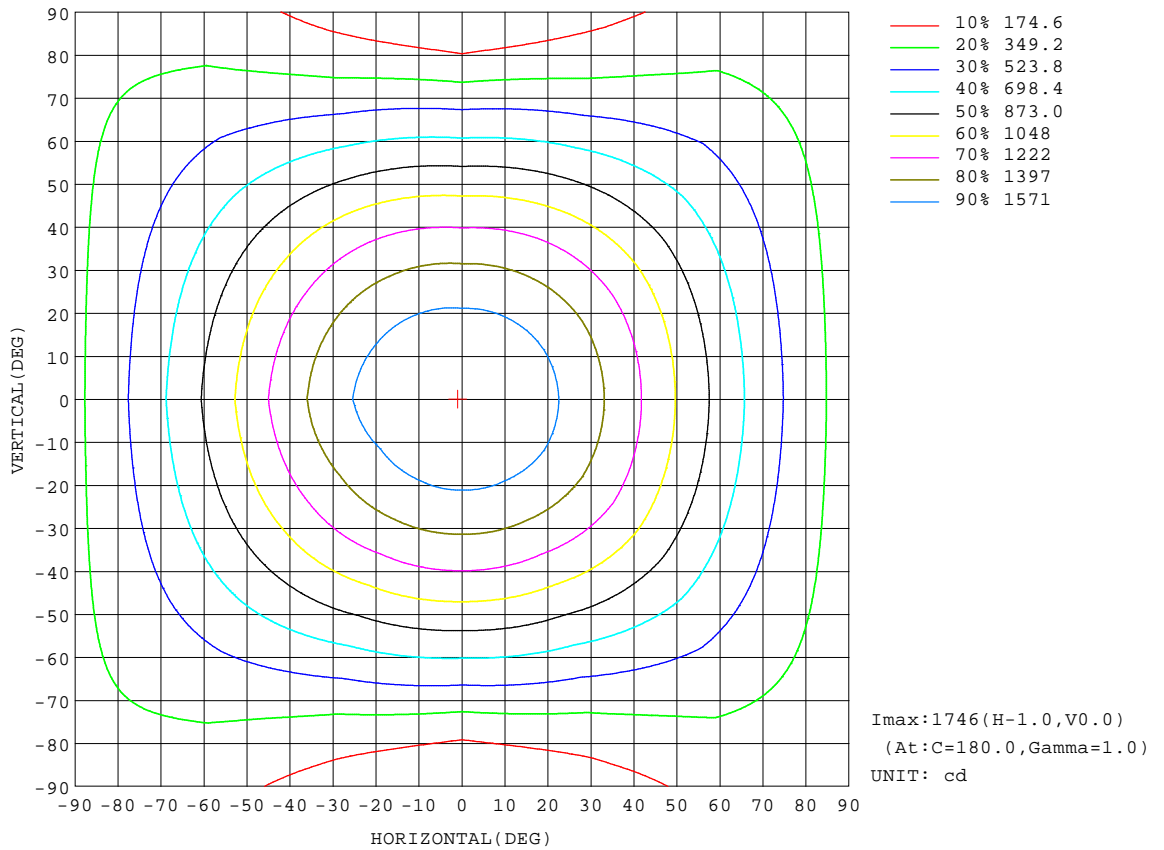
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	42	35	52	42	35	28
0.80	64	52	44	63	51	44	61	50	43	36
1.00	72	60	53	71	60	52	68	61	51	44
1.25	79	68	60	77	67	59	74	65	58	50
1.50	84	73	66	82	72	65	78	70	64	55
2.00	91	81	74	89	80	73	84	77	71	62
2.50	95	86	79	93	85	78	88	81	76	66
3.00	98	91	84	96	89	83	91	85	80	70
4.00	103	96	91	100	94	89	95	90	86	75
5.00	105	100	95	102	97	93	97	93	89	78
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:2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		



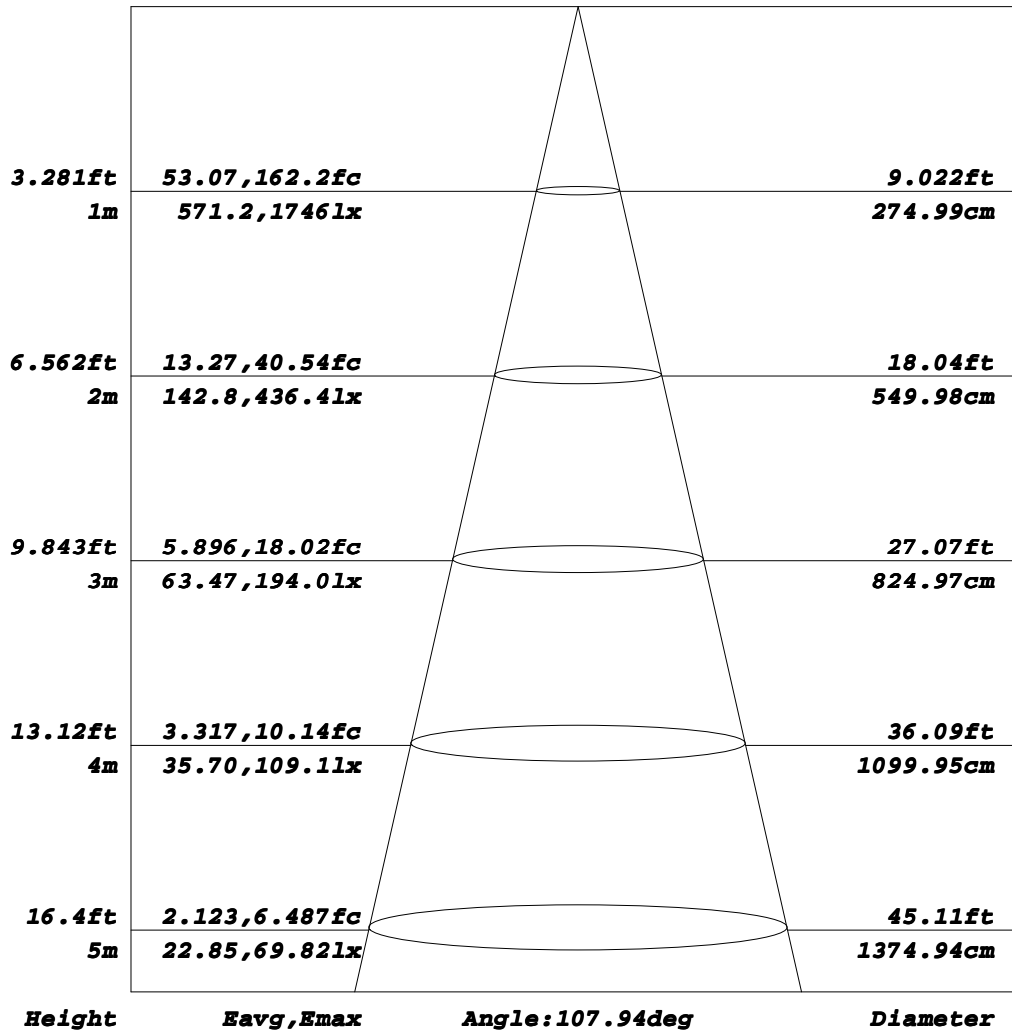
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

AAI Figure

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

Flux out:3400 lm



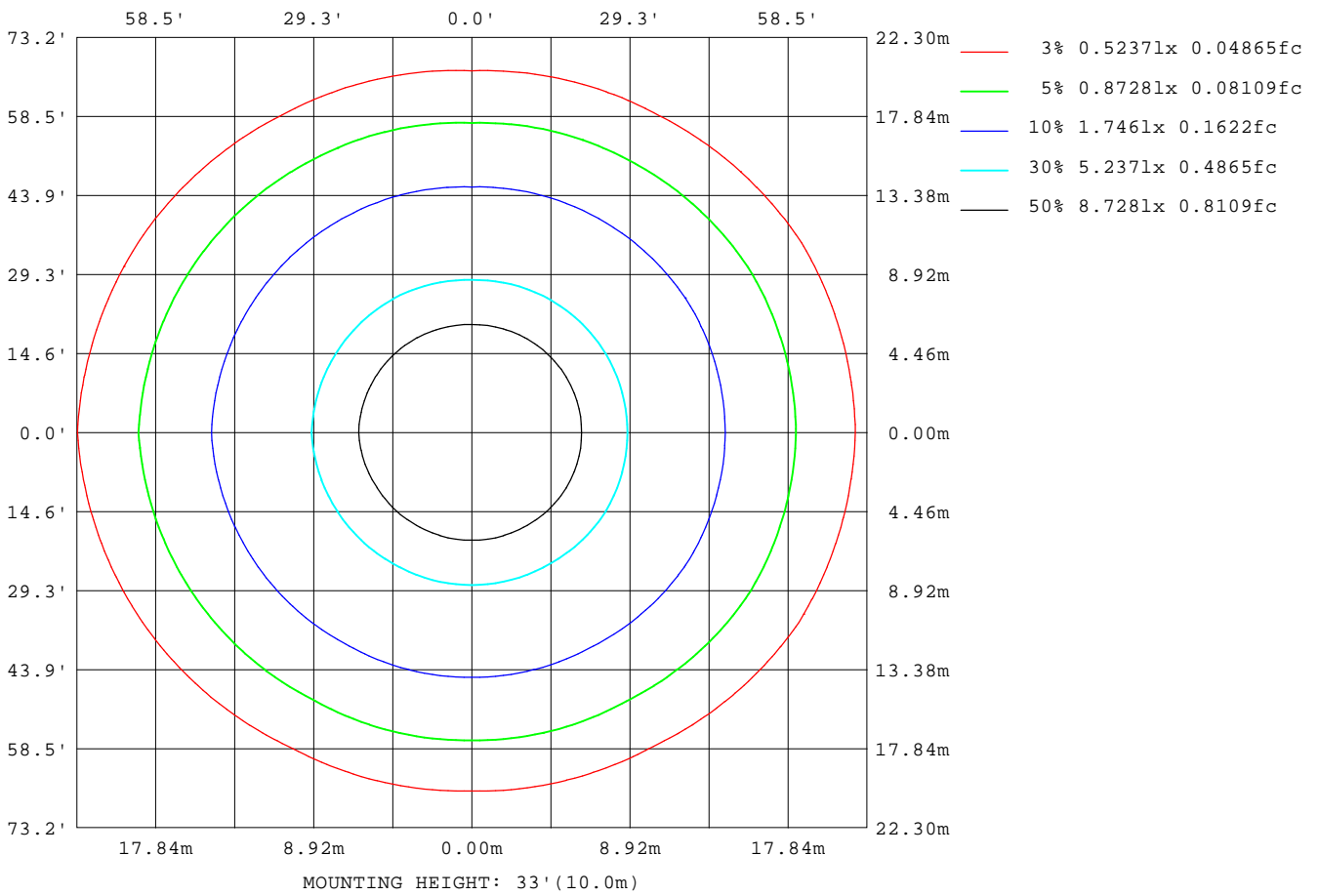
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2018-01-17

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

ISOLUX DIAGRAM

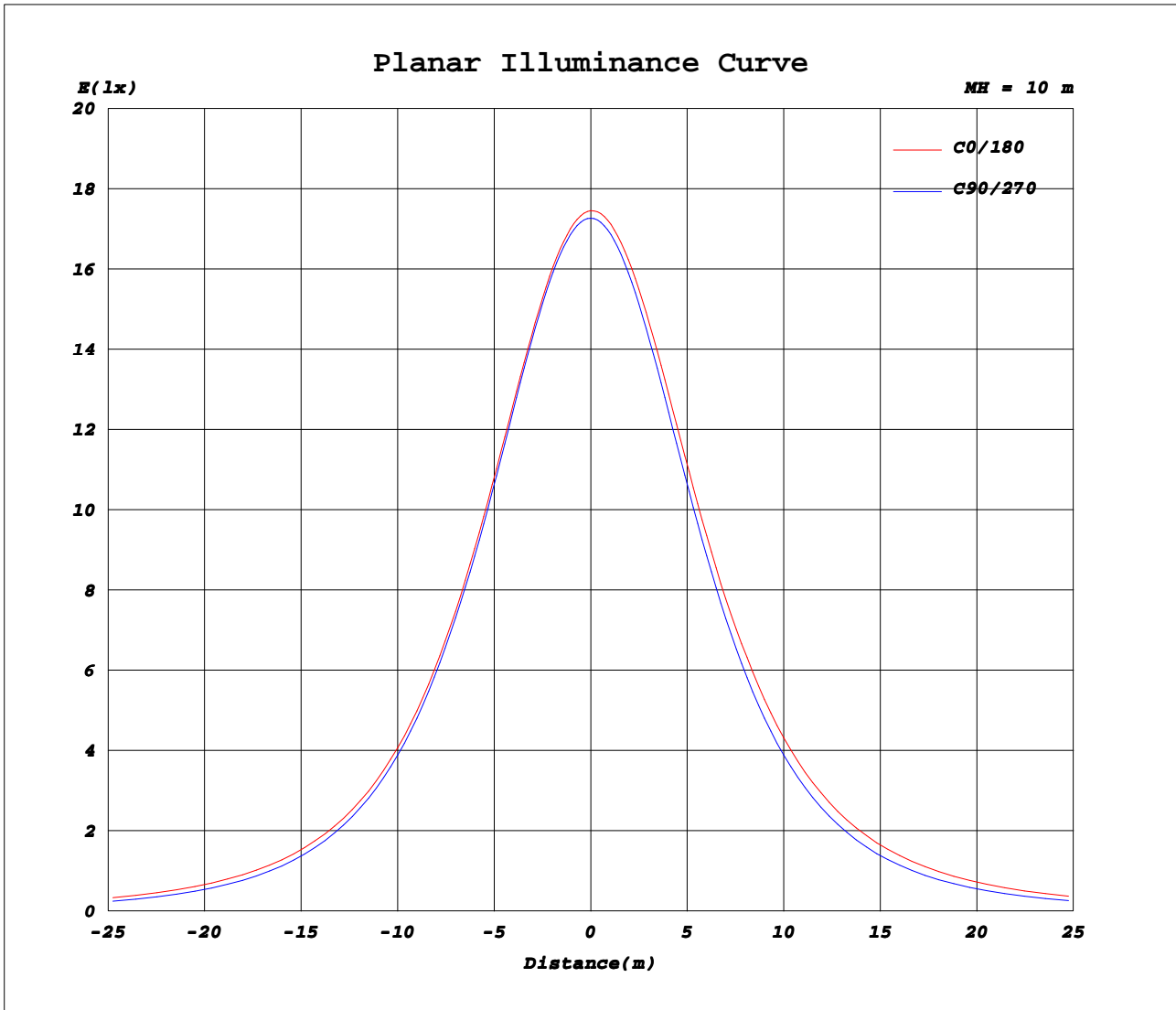
Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.0V I:0.2870A P:52.30W PF:0.8180 Lamp Flux:5555.04x1 lm		
NAME: 1.5M-55W-4500K	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1746	1736	1730	1727	1724	1722	1746	1736	1730	1727	1724	1722							
5	1733	1726	1720	1718	1715	1714	1742	1729	1723	1718	1716	1714							
10	1705	1702	1693	1691	1689	1691	1723	1707	1699	1690	1690	1691							
15	1663	1661	1650	1648	1646	1652	1689	1669	1658	1646	1649	1652							
20	1605	1603	1591	1588	1589	1598	1640	1617	1602	1587	1592	1598							
25	1535	1532	1517	1512	1515	1531	1577	1553	1530	1513	1520	1529							
30	1453	1450	1428	1424	1429	1451	1501	1474	1447	1426	1435	1449							
35	1361	1361	1329	1331	1331	1364	1415	1384	1356	1327	1348	1358							
40	1259	1260	1221	1220	1223	1266	1326	1283	1253	1217	1240	1257							
45	1152	1149	1103	1100	1106	1157	1223	1175	1140	1100	1127	1149							
50	1040	1032	979	973	984	1041	1114	1062	1021	978	1009	1036							
55	929	913	852	841	856	923	998	944	892	849	880	919							
60	819	796	720	704	725	807	887	827	762	717	751	805							
65	714	683	594	564	598	694	779	716	632	587	623	696							
70	614	575	467	423	473	587	673	609	504	449	497	595							
75	519	475	350	284	357	486	574	509	386	312	382	494							
80	428	383	246	155	253	394	481	413	280	182	280	402							
85	346	299	162	50.2	170	309	394	327	191	73.0	193	318							
90	273	226	99.4	11.0	106	235	315	253	122	16.7	124	245							
95	208	164	54.1	12.4	60.8	173	245	188	72.3	16.0	73.6	181							
100	152	112	29.1	13.9	33.3	121	185	133	41.5	17.3	41.1	128							
105	105	70.7	18.7	15.5	20.2	80.0	133	90.6	25.4	18.6	25.2	85.6							
110	69.2	44.4	17.9	17.1	18.0	50.6	91.2	59.0	20.9	19.9	20.7	53.8							
115	44.3	28.5	19.5	18.8	19.7	32.0	60.3	38.3	22.4	21.4	21.9	35.4							
120	29.9	22.9	21.0	20.6	21.5	24.0	39.9	27.9	23.9	22.9	23.3	26.4							
125	26.1	24.2	22.7	22.4	23.4	25.1	30.4	27.4	25.6	24.5	24.7	26.4							
130	28.0	25.9	24.4	24.3	25.3	27.0	30.7	28.9	27.2	26.1	26.1	27.8							
135	29.7	27.6	26.3	26.3	27.2	28.3	32.1	30.4	28.9	27.9	27.7	29.2							
140	31.5	29.3	28.1	28.3	29.1	30.2	33.3	31.9	30.6	29.7	29.3	30.7							
145	33.2	31.0	30.0	30.3	30.9	32.0	34.3	33.3	32.2	31.5	31.0	32.1							
150	34.8	32.6	31.8	32.2	32.6	33.6	35.3	34.7	33.9	33.3	32.7	33.5							
155	36.3	34.2	33.6	34.0	34.2	34.9	36.3	36.0	35.4	35.0	34.4	35.0							
160	37.8	35.7	35.3	35.6	35.7	36.2	37.4	37.1	36.8	36.5	35.9	36.1							
165	39.2	37.0	36.9	37.2	37.1	37.3	38.3	38.0	38.0	37.8	37.2	37.1							
170	40.5	38.2	38.2	38.4	38.3	38.4	38.9	38.7	38.9	38.7	38.3	38.0							
175	40.8	38.9	39.0	39.3	39.0	39.0	39.2	38.8	39.2	39.1	38.7	38.2							
180	39.9	39.0	39.3	39.5	39.1	38.8	40.1	38.9	39.4	39.4	39.1	38.8							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2018-01-17

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.267
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks: