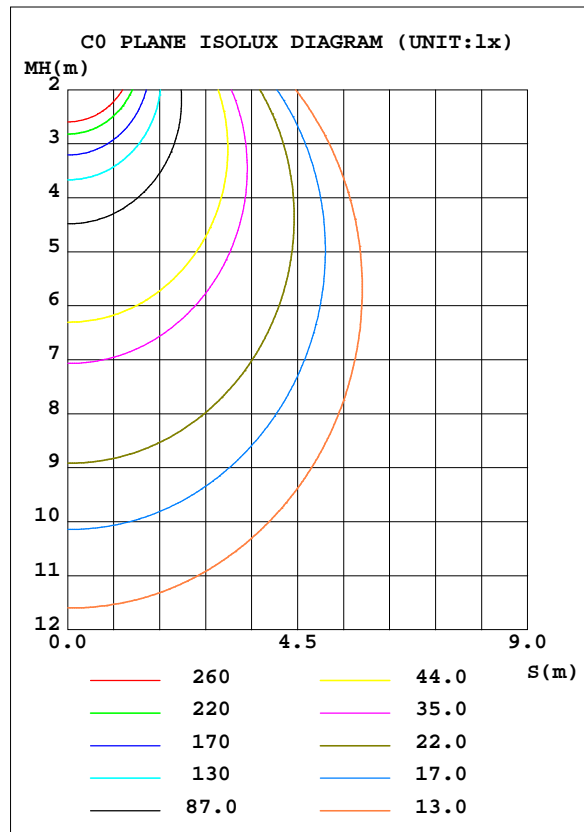
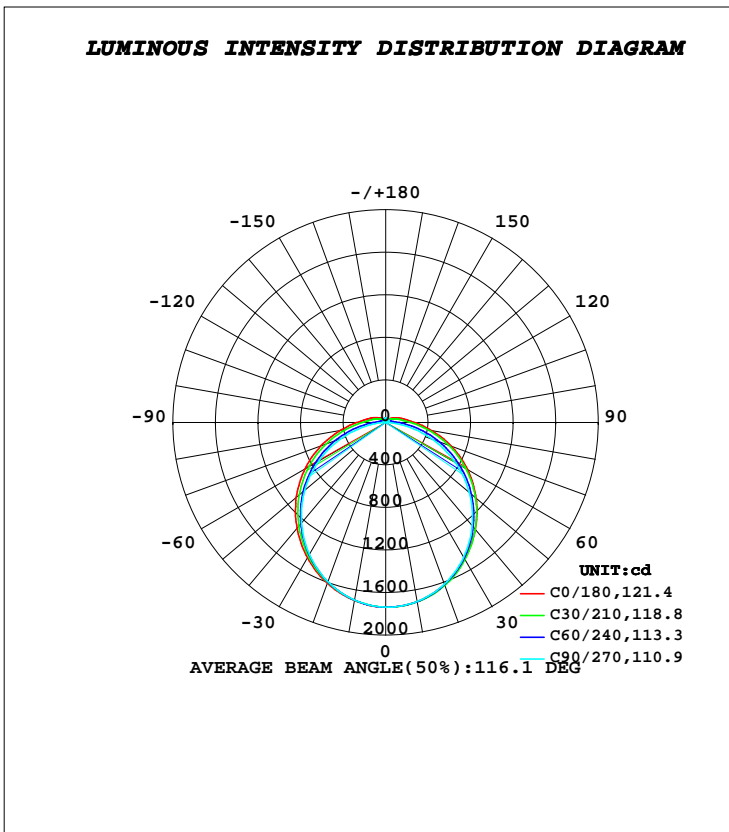


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 135.77 lm/W			
MODEL		I _{max} (cd)	1737	S/MH(C0/180)	1.27
NOMINAL POWER(W)	45	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	5770.2	η UP, DN(C0-180)	3.6,46.8
NOMINAL FLUX(lm)	5770.16	CIE CLASS	DIRECT	η UP, DN(C180-360)	3.6,46.0
LAMPS INSIDE	1	η up(%)	7.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.3	η down(%)	92.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

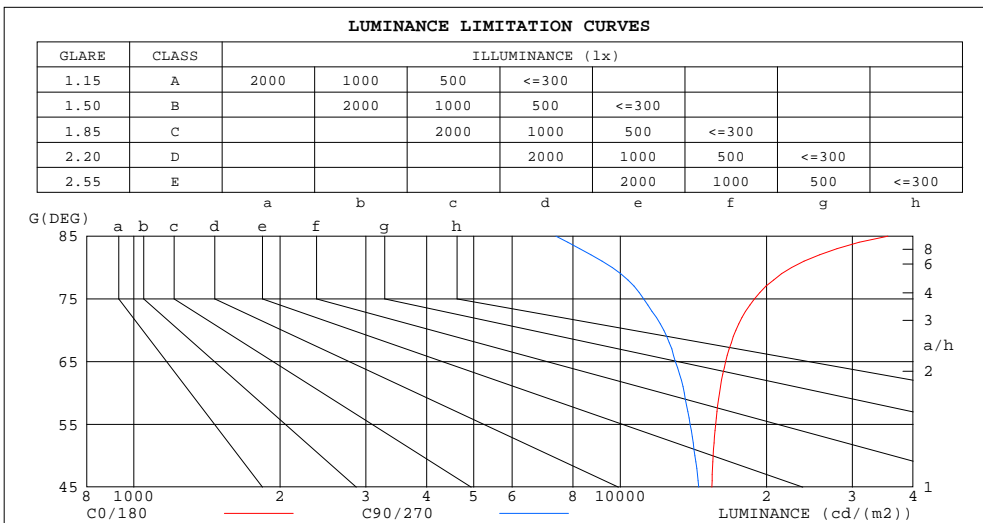
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1710	1712	1709	1704	1700	1696	1696	1704	0- 10	164.2	164.2	2.85,2.85
20	1622	1626	1617	1611	1609	1597	1593	1609	10- 20	469.7	633.9	11,11
30	1485	1483	1466	1464	1471	1447	1435	1462	20- 30	711.3	1345	23.3,23.3
40	1312	1297	1266	1276	1299	1257	1233	1275	30- 40	860.2	2205	38.2,38.2
50	1111	1077	1027	1056	1099	1039	993.4	1059	40- 50	903.0	3108	53.9,53.9
60	890.1	838.0	759.9	816.5	877.3	799.6	728.4	819.8	50- 60	840.0	3948	68.4,68.4
70	658.3	587.4	471.8	568.2	650.1	554.9	446.3	574.7	60- 70	685.1	4634	80.3,80.3
80	434.5	345.4	187.7	330.3	431.6	322.5	169.2	339.0	70- 80	467.5	5101	88.4,88.4
90	272.6	177.7	15.06	169.0	270.9	165.8	16.43	176.5	80- 90	254.5	5356	92.8,92.8
100	182.6	107.1	15.69	104.5	183.3	103.9	18.50	105.7	90-100	140.5	5496	95.2,95.2
110	128.5	70.63	18.82	70.86	130.6	71.40	21.15	66.63	100-110	91.72	5588	96.8,96.8
120	87.24	47.65	22.12	50.38	91.06	51.64	24.14	49.68	110-120	60.86	5649	97.9,97.9
130	58.61	35.28	25.56	39.16	63.11	40.41	27.30	36.15	120-130	40.64	5689	98.6,98.6
140	42.60	32.13	29.18	34.47	45.40	35.50	30.48	33.06	130-140	28.59	5718	99.1,99.1
150	35.63	33.16	33.03	34.19	37.01	35.01	34.07	33.75	140-150	21.55	5739	99.5,99.5
160	36.12	36.06	36.60	36.59	36.26	36.96	37.31	36.39	150-160	16.30	5756	99.7,99.7
170	38.96	38.78	39.39	38.99	38.75	39.15	39.75	38.88	160-170	10.69	5766	99.9,99.9
180	40.18	40.31	40.85	40.20	40.34	40.28	40.90	40.26	170-180	3.777	5770	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:2020-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	35525	7381
80	22498	9635
75	18875	11179
70	17304	12295
65	16481	12995
60	16005	13546
55	15712	13932
50	15534	14240
45	15437	14509

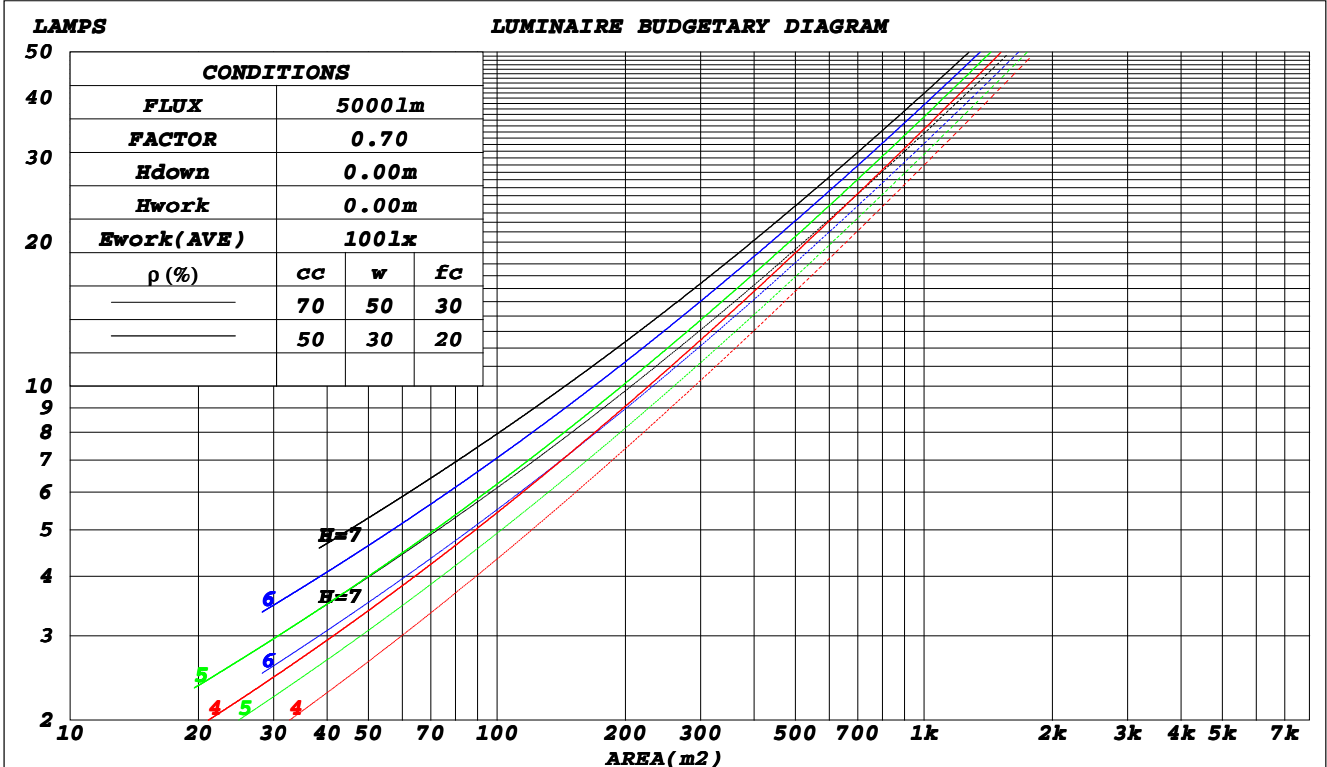
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	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	1.17	1.17	1.17	1.14	1.14	1.14	1.07	1.07	1.07	1.01	1.01	1.01	.95	.95	.95	.93
1.0	1.00	.96	.91	.97	.93	.89	.92	.88	.85	.87	.84	.81	.82	.80	.77	.75
2.0	.87	.80	.73	.84	.78	.72	.80	.74	.69	.75	.71	.66	.71	.67	.64	.61
3.0	.76	.67	.60	.74	.66	.59	.70	.63	.57	.66	.60	.56	.62	.58	.54	.51
4.0	.67	.58	.51	.65	.57	.50	.62	.54	.49	.58	.52	.47	.55	.50	.46	.43
5.0	.60	.50	.44	.58	.49	.43	.55	.48	.42	.52	.46	.41	.50	.44	.40	.37
6.0	.54	.44	.38	.52	.44	.37	.50	.42	.37	.47	.41	.36	.45	.39	.35	.32
7.0	.49	.40	.33	.47	.39	.33	.45	.38	.32	.43	.36	.31	.41	.35	.31	.29
8.0	.44	.36	.30	.43	.35	.29	.41	.34	.29	.39	.33	.28	.38	.32	.28	.25
9.0	.41	.32	.27	.40	.32	.26	.38	.31	.26	.36	.30	.25	.35	.29	.25	.23
10.0	.37	.29	.24	.37	.29	.24	.35	.28	.23	.34	.27	.23	.32	.27	.23	.21



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7063]
 Remarks:

WEC AND CCEC

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	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	.343	.195	.062	.334	.190	.060	.316	.181	.058	.300	.173	.056	.285	.165	.053	
2.0	.310	.170	.052	.302	.166	.051	.286	.159	.049	.271	.152	.048	.258	.146	.046	
3.0	.281	.150	.045	.274	.147	.044	.260	.141	.043	.247	.135	.041	.235	.130	.040	
4.0	.257	.133	.039	.250	.131	.039	.237	.126	.038	.226	.121	.037	.215	.117	.036	
5.0	.235	.120	.035	.229	.118	.034	.218	.114	.033	.208	.110	.033	.198	.106	.032	
6.0	.217	.109	.031	.212	.107	.031	.202	.103	.030	.192	.100	.029	.183	.096	.029	
7.0	.201	.100	.028	.196	.098	.028	.187	.095	.027	.179	.092	.027	.170	.089	.026	
8.0	.187	.092	.026	.183	.090	.025	.175	.087	.025	.167	.084	.024	.159	.082	.024	
9.0	.175	.085	.024	.171	.083	.023	.164	.081	.023	.156	.078	.022	.150	.076	.022	
10.0	.164	.079	.022	.161	.078	.022	.154	.075	.021	.147	.073	.021	.141	.071	.020	

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	.245	.245	.245	.210	.210	.210	.143	.143	.143	.082	.082	.082	.026	.026	.026	
1.0	.238	.211	.187	.203	.181	.161	.139	.125	.111	.080	.072	.065	.026	.023	.021	
2.0	.230	.187	.151	.197	.161	.131	.135	.112	.091	.078	.065	.054	.025	.021	.017	
3.0	.223	.170	.129	.191	.147	.111	.131	.102	.078	.076	.060	.046	.024	.019	.015	
4.0	.215	.157	.113	.184	.136	.098	.127	.095	.069	.073	.055	.041	.024	.018	.013	
5.0	.207	.147	.103	.178	.127	.089	.123	.089	.063	.071	.052	.037	.023	.017	.012	
6.0	.200	.139	.095	.172	.120	.083	.119	.084	.059	.069	.050	.035	.022	.016	.012	
7.0	.193	.132	.089	.166	.115	.078	.115	.080	.055	.067	.047	.033	.022	.015	.011	
8.0	.186	.126	.085	.160	.110	.074	.111	.077	.053	.065	.045	.031	.021	.015	.010	
9.0	.180	.122	.082	.155	.105	.071	.108	.074	.051	.063	.044	.030	.020	.014	.010	
10.0	.174	.117	.079	.150	.102	.069	.104	.072	.049	.061	.042	.029	.020	.014	.010	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	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	22.2	23.7	22.6	24.0	24.3	21.5	23.0	21.9	23.3	23.7
3H	24.2	25.5	24.6	25.9	26.3	23.1	24.4	23.5	24.8	25.2
4H	25.2	26.5	25.6	26.8	27.3	23.7	25.0	24.1	25.3	25.7
6H	26.2	27.4	26.6	27.8	28.2	24.1	25.3	24.5	25.7	26.1
8H	26.7	27.9	27.2	28.3	28.7	24.2	25.4	24.6	25.8	26.2
12H	27.3	28.4	27.8	28.9	29.3	24.3	25.4	24.7	25.8	26.3
4H 2H	22.8	24.1	23.2	24.5	24.9	22.3	23.6	22.7	24.0	24.4
3H	25.0	26.1	25.5	26.6	27.0	24.0	25.2	24.5	25.6	26.0
4H	26.2	27.2	26.7	27.7	28.1	24.8	25.8	25.3	26.3	26.8
6H	27.4	28.3	27.9	28.8	29.3	25.4	26.3	25.9	26.8	27.3
8H	28.0	28.9	28.5	29.3	29.9	25.5	26.4	26.1	26.9	27.4
12H	28.7	29.5	29.2	30.0	30.6	25.7	26.4	26.2	27.0	27.5
8H 4H	26.5	27.3	27.0	27.8	28.4	25.3	26.2	25.8	26.7	27.2
6H	27.9	28.6	28.5	29.2	29.8	26.1	26.8	26.7	27.4	27.9
8H	28.7	29.4	29.3	29.9	30.5	26.4	27.1	27.0	27.6	28.2
12H	29.7	30.2	30.3	30.8	31.4	26.7	27.2	27.3	27.8	28.4
12H 4H	26.5	27.3	27.0	27.8	28.4	25.4	26.2	25.9	26.7	27.3
6H	28.0	28.7	28.6	29.2	29.8	26.3	27.0	26.9	27.5	28.1
8H	28.9	29.5	29.5	30.0	30.7	26.8	27.3	27.3	27.9	28.5
Variations with the observer position at spacings(CIE Pub.117):										
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 / - 0.4				

CIE Pub.117, 5770 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 6.1)
 Area: 0.112 m2

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		

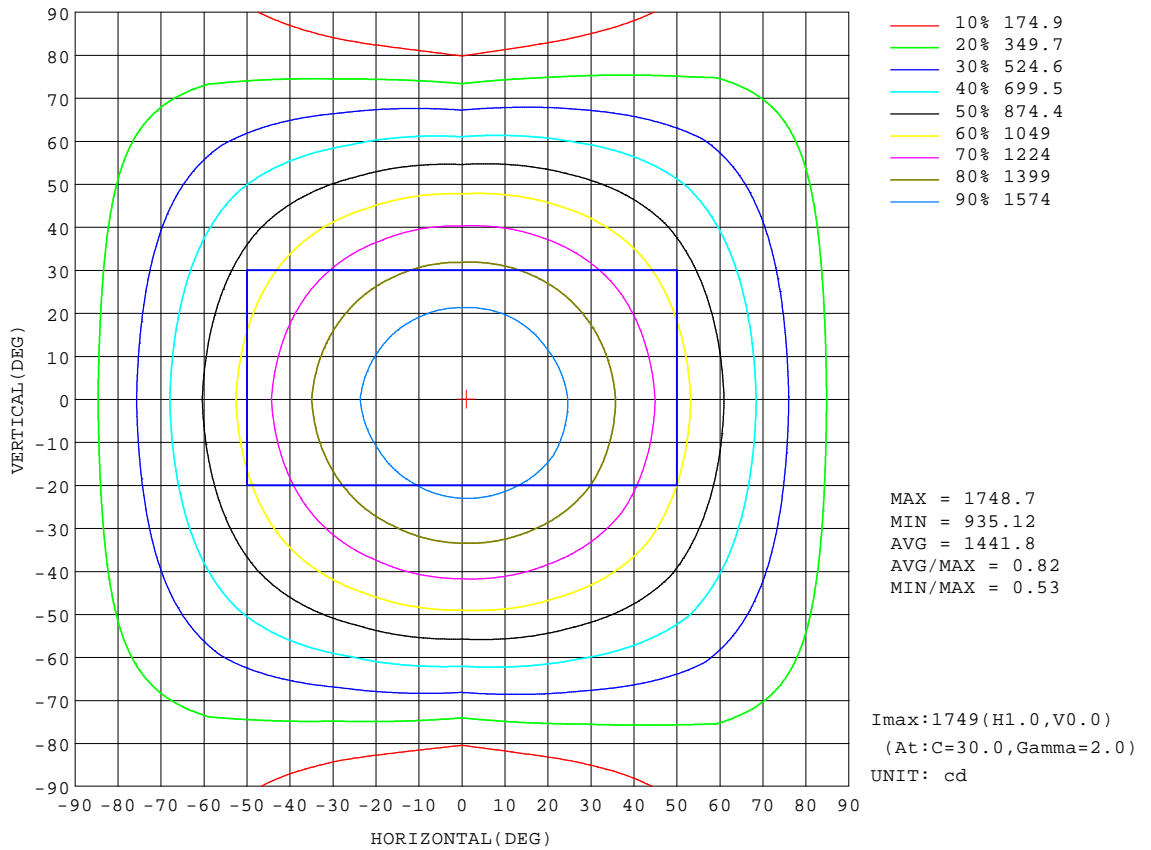
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	54	42	35	53	41	34	51	41	34	28
0.80	63	51	43	62	51	43	60	49	43	35
1.00	71	60	52	70	59	51	67	60	51	43
1.25	78	67	59	77	66	59	73	64	58	49
1.50	83	73	65	81	71	64	78	69	63	54
2.00	90	81	74	88	79	73	84	76	71	61
2.50	95	86	79	92	84	78	87	81	75	65
3.00	98	90	84	95	88	82	90	84	79	69
4.00	102	96	90	99	93	88	94	89	85	74
5.00	105	99	94	102	97	92	96	92	88	77
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:2020-12-07

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		



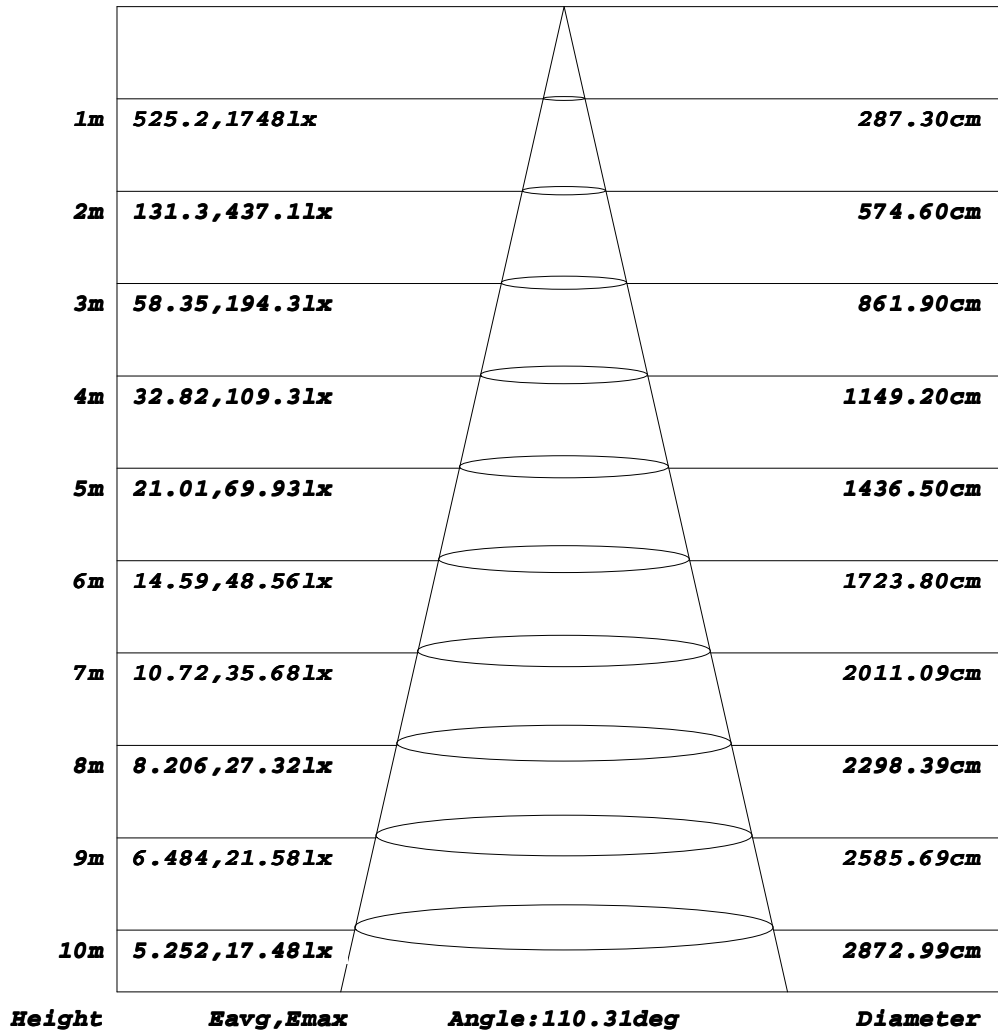
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity:65.0%
Test Distance:8.000m [K=0.7063]
Remarks:

AAI Figure

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		

Flux out:3626 lm



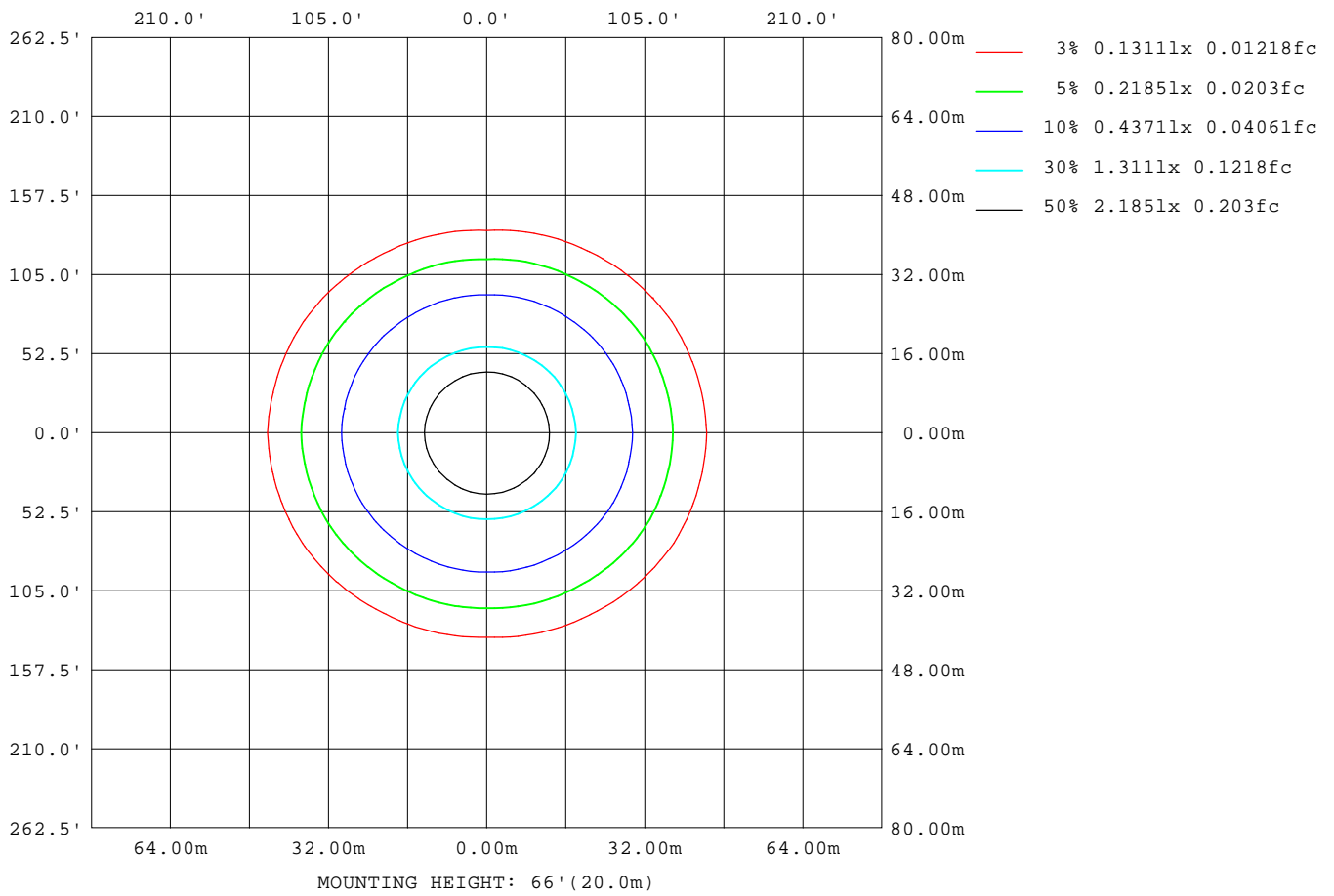
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

ISOLUX DIAGRAM

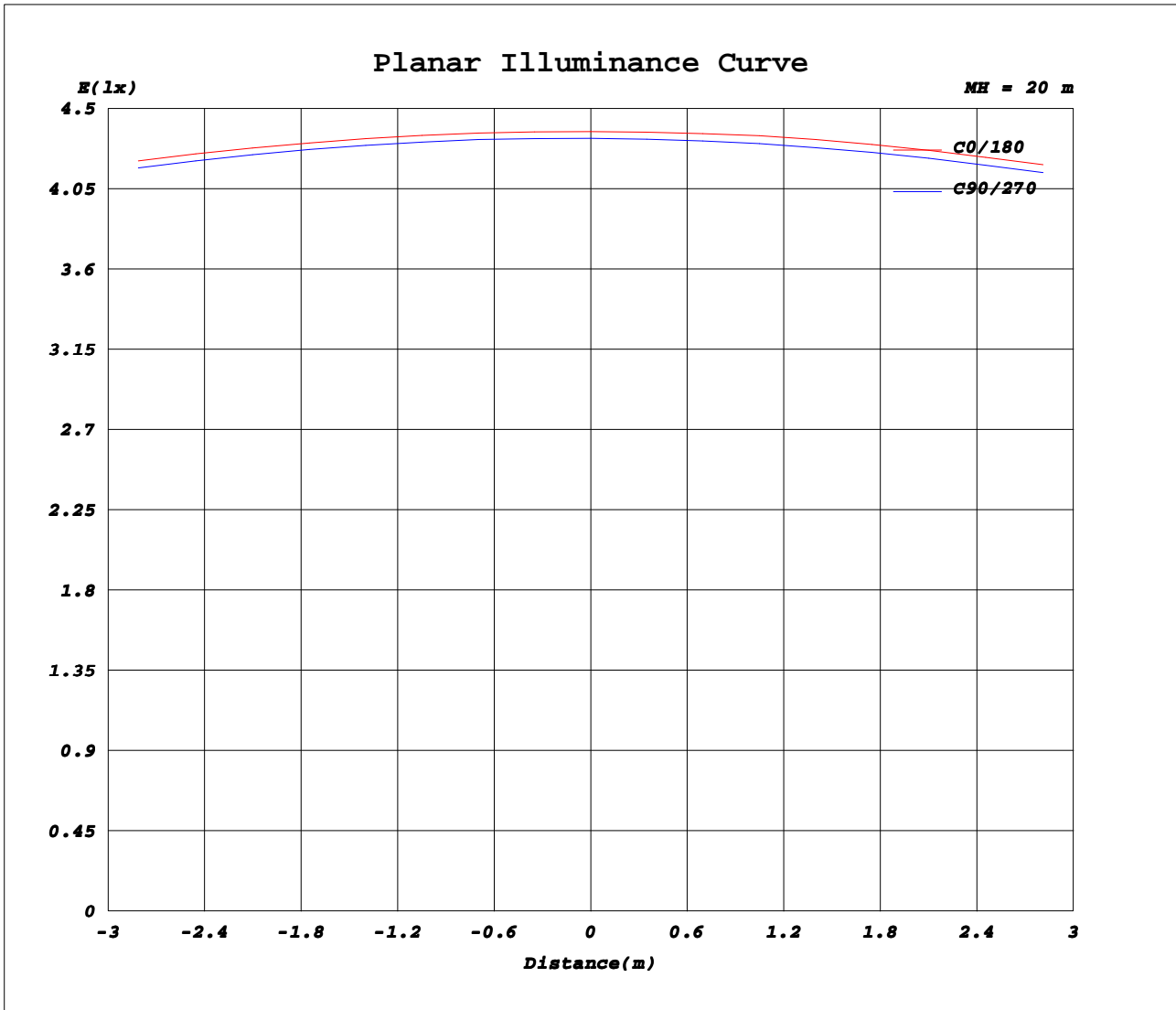
Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
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: 2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.20V I:0.2000A P:42.500W PF:0.9620 Freq:50.00Hz		
Lamp Flux:5770.16x1 lm		
NAME: 1.5m-45W	TYPE: LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	1736	1736	1736	1736	1736	1736	1736	1736	1736	1736	1736	1736							
5	1731	1732	1732	1731	1730	1728	1727	1724	1724	1724	1728	1729							
10	1710	1713	1711	1709	1705	1703	1700	1697	1696	1696	1702	1706							
15	1673	1681	1674	1671	1666	1665	1661	1655	1653	1653	1661	1666							
20	1622	1630	1622	1617	1611	1611	1609	1599	1595	1593	1605	1612							
25	1558	1568	1556	1548	1542	1545	1545	1532	1522	1521	1534	1549							
30	1485	1491	1476	1466	1460	1468	1471	1455	1439	1435	1452	1473							
35	1402	1406	1384	1372	1367	1382	1388	1367	1345	1338	1359	1388							
40	1312	1312	1281	1266	1264	1287	1299	1272	1242	1233	1257	1294							
45	1214	1211	1170	1151	1153	1186	1202	1169	1131	1117	1147	1192							
50	1111	1102	1053	1027	1035	1077	1099	1062	1016	993	1032	1085							
55	1002	990	930	897	913	965	989	950	892	864	908	973							
60	890	874	802	760	784	849	877	834	765	728	782	857							
65	775	753	671	616	655	731	764	717	638	589	656	740							
70	658	635	540	472	524	613	650	600	510	446	528	621							
75	543	514	410	325	395	494	536	484	382	304	399	504							
80	435	403	288	188	274	386	432	377	268	169	284	394							
85	344	307	186	72.2	176	294	342	287	172	63.7	185	302							
90	273	235	120	15.1	113	225	271	220	111	16.4	120	232							
95	219	182	84.1	14.2	81.1	177	219	175	80.5	17.3	84.6	181							
100	183	150	64.1	15.7	62.4	147	183	145	62.6	18.5	63.0	148							
105	154	125	49.4	17.2	49.3	122	155	121	50.0	19.8	50.1	121							
110	129	103	38.5	18.8	40.5	101	131	101	41.6	21.1	39.9	93.4							
115	107	82.8	32.4	20.4	34.7	83.8	109	84.2	36.2	22.6	33.7	81.4							
120	87.2	66.3	29.0	22.1	31.1	69.6	91.1	70.4	32.8	24.1	30.4	69.0							
125	70.6	54.0	27.3	23.8	29.3	58.4	75.9	59.3	30.9	25.9	28.7	53.5							
130	58.6	43.5	27.0	25.6	28.7	49.6	63.1	50.6	30.2	27.3	28.5	43.8							
135	49.4	38.1	27.7	27.3	29.2	43.2	53.2	44.1	30.4	28.7	29.0	38.5							
140	42.6	35.2	29.0	29.2	30.3	38.6	45.4	39.6	31.4	30.5	30.3	35.9							
145	37.5	33.9	30.7	31.1	31.8	36.0	40.1	37.0	32.7	32.3	31.7	34.4							
150	35.6	33.8	32.5	33.0	33.6	34.8	37.0	35.8	34.2	34.1	33.4	34.1							
155	35.2	34.7	34.4	34.9	35.2	35.4	35.8	35.9	35.7	35.8	35.1	34.9							
160	36.1	36.1	36.1	36.6	36.8	36.4	36.3	36.7	37.2	37.3	36.7	36.1							
165	37.7	37.4	37.7	38.2	38.3	37.6	37.5	37.9	38.5	38.7	38.1	37.4							
170	39.0	38.6	39.0	39.4	39.4	38.6	38.7	38.8	39.5	39.7	39.3	38.4							
175	39.6	39.3	39.8	40.1	40.0	39.2	39.8	39.6	40.3	40.6	40.3	39.3							
180	40.2	40.0	40.6	40.9	40.6	39.8	40.3	40.0	40.6	40.9	40.8	39.7							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-12-07

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.443
Humidity: 65.0%
Test Distance: 8.000m [K=0.7063]
Remarks: