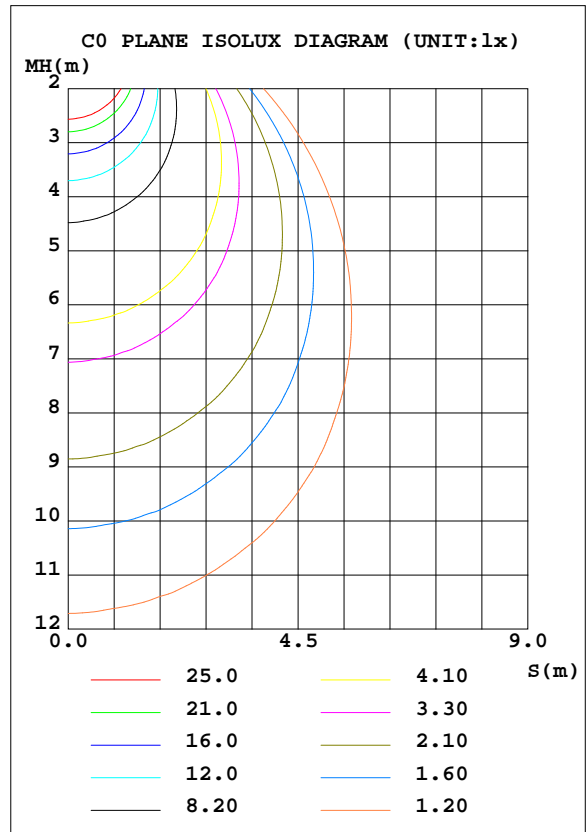
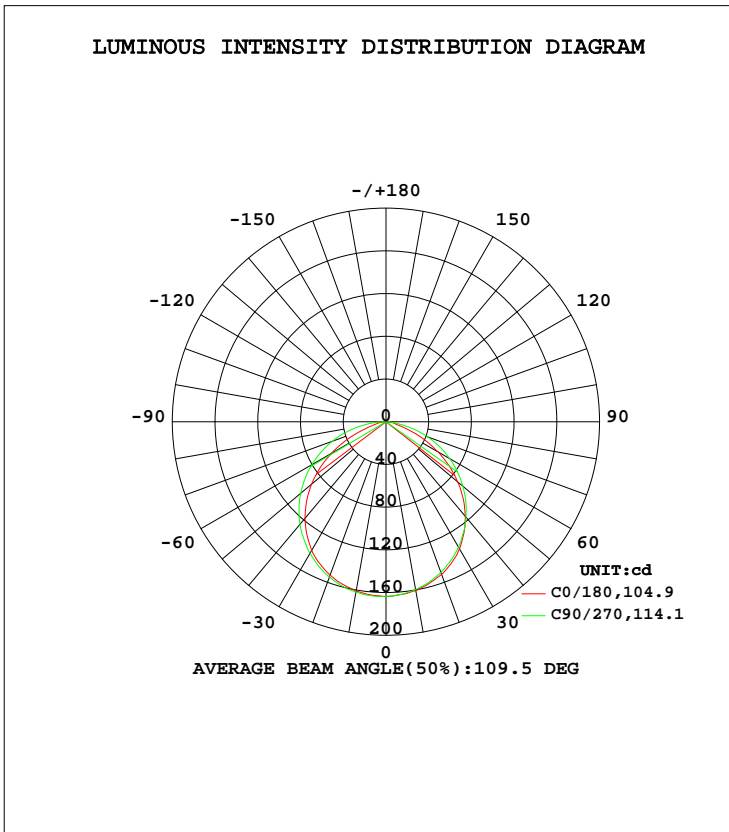


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.48lx1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 68.34 lm/W			
MODEL	136-185_4000K	I _{max} (cd)	163.9	S/MH(C0/180)	1.26
NOMINAL POWER(W)	7	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	442.48	η UP, DN(C0-180)	0.0,48.1
NOMINAL FLUX(lm)	442.481	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,51.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)		η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

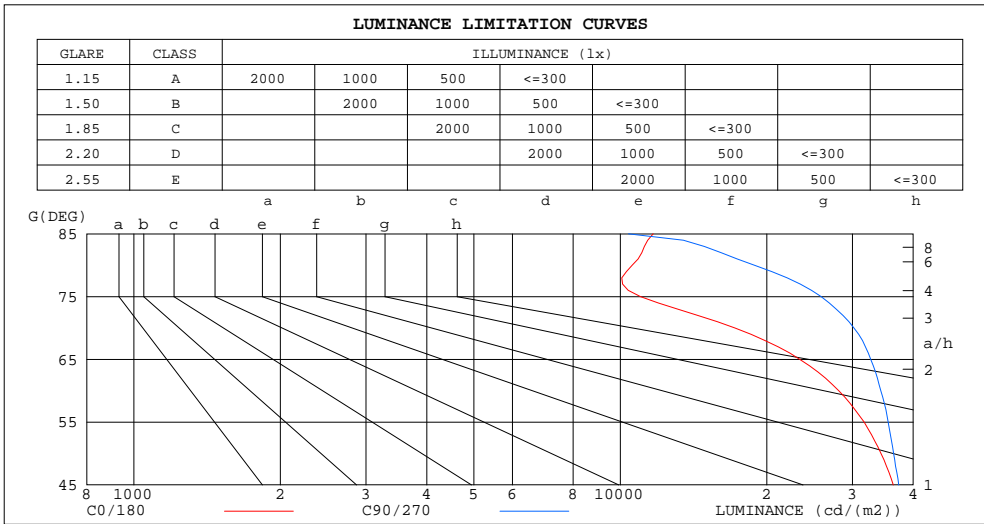
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	lum, lamp
10	160.6	160.3	159.5	160.0	160.8	162.0	162.0	161.5	0- 10	15.48	15.48	3.5,3.5
20	152.2	150.9	150.2	151.0	152.7	154.4	154.8	154.1	10- 20	44.42	59.89	13.5,13.5
30	137.6	135.7	135.6	136.5	139.1	141.3	142.3	140.5	20- 30	67.39	127.3	28.8,28.8
40	115.5	114.9	116.7	116.4	118.1	122.3	125.3	121.1	30- 40	80.83	208.1	47,47
50	87.76	89.29	93.96	91.10	90.97	97.98	104.2	96.42	40- 50	82.37	290.5	65.6,65.6
60	55.89	60.01	68.78	61.74	58.72	69.70	80.09	67.97	50- 60	71.44	361.9	81.8,81.8
70	23.37	29.75	41.43	30.65	24.30	38.52	53.53	37.05	60- 70	49.50	411.4	93,93
80	7.303	10.10	13.13	12.28	7.443	14.11	24.99	14.05	70- 80	23.69	435.1	98.3,98.3
90	1.525	3.179	1.888	3.735	1.383	3.958	1.810	3.334	80- 90	7.362	442.5	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: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.481x1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	11680	10391
80	10577	18860
75	10992	25859
70	17188	30214
65	23371	32720
60	28113	34312
55	31708	35528
50	34338	36460
45	36403	37349

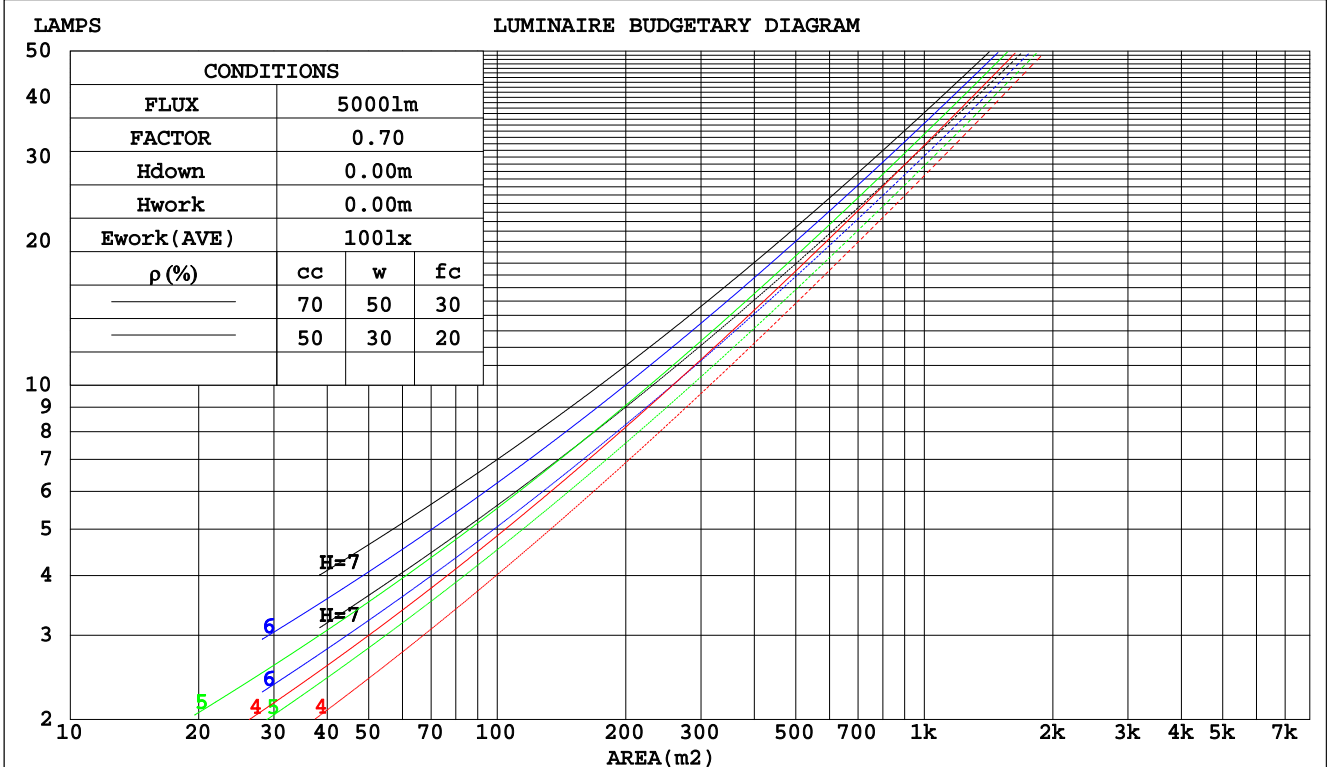
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity: 65.0%
 Test Distance: 9.900m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.481x1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc	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	1.00
1.0	1.05	1.00	.97	1.02	.99	.95	.98	.95	.92	.94	.92	.89	.91	.89	.87	.85
2.0	.92	.85	.79	.90	.84	.79	.86	.81	.77	.83	.79	.75	.80	.76	.73	.71
3.0	.81	.73	.66	.79	.72	.66	.76	.70	.65	.73	.68	.64	.71	.66	.62	.60
4.0	.72	.63	.57	.70	.62	.56	.68	.61	.55	.66	.59	.55	.63	.58	.54	.52
5.0	.64	.55	.49	.63	.55	.49	.61	.54	.48	.59	.53	.47	.57	.51	.47	.45
6.0	.58	.49	.43	.57	.49	.42	.55	.48	.42	.53	.47	.42	.52	.46	.41	.39
7.0	.52	.44	.38	.52	.43	.38	.50	.43	.37	.49	.42	.37	.47	.41	.37	.35
8.0	.48	.39	.34	.47	.39	.34	.46	.39	.33	.45	.38	.33	.43	.37	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.27	.40	.33	.27	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.481x1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	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	.296	.168	.053	.289	.165	.052	.276	.158	.050	.264	.152	.049	.252	.146	.047	
2.0	.280	.154	.047	.274	.151	.047	.263	.146	.045	.252	.141	.044	.242	.137	.043	
3.0	.261	.139	.042	.256	.137	.041	.246	.133	.040	.236	.129	.040	.227	.126	.039	
4.0	.242	.126	.037	.238	.124	.037	.228	.121	.036	.220	.118	.036	.212	.115	.035	
5.0	.225	.115	.033	.221	.113	.033	.213	.111	.033	.205	.108	.032	.198	.106	.032	
6.0	.209	.105	.030	.206	.104	.030	.198	.102	.030	.192	.100	.029	.185	.098	.029	
7.0	.195	.097	.027	.192	.096	.027	.186	.094	.027	.180	.092	.027	.174	.090	.027	
8.0	.183	.089	.025	.180	.089	.025	.174	.087	.025	.169	.085	.025	.164	.084	.024	
9.0	.172	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.162	.077	.022	.159	.077	.021	.155	.076	.021	.150	.075	.021	.146	.073	.021	

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.179	.156	.135	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.146	.114	.086	.100	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.163	.114	.076	.140	.099	.065	.096	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.155	.101	.059	.133	.087	.052	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.148	.090	.048	.127	.078	.042	.087	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.141	.082	.040	.121	.071	.035	.083	.050	.024	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.080	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.481x1 lm										
NAME: 136-185_4000K					TYPE:7W			WEIGHT:		
SPEC.:4000K					DIM.:			SERIAL No.:		
MFR.:					SUR.:0.037			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	24.5	26.0	24.8	26.2	26.4	25.1	26.6	25.3	26.8	27.0
3H	25.3	26.7	25.6	26.9	27.1	26.5	27.8	26.8	28.1	28.3
4H	25.4	26.7	25.7	27.0	27.2	26.9	28.2	27.3	28.5	28.8
6H	25.5	26.7	25.8	27.0	27.3	27.2	28.4	27.5	28.7	29.0
8H	25.5	26.7	25.9	27.0	27.3	27.2	28.4	27.6	28.7	29.0
12H	25.5	26.7	25.9	27.0	27.3	27.3	28.4	27.6	28.7	29.0
4H 2H	25.0	26.3	25.3	26.6	26.8	25.5	26.8	25.8	27.0	27.3
3H	25.9	27.1	26.3	27.4	27.7	27.0	28.1	27.3	28.4	28.7
4H	26.1	27.2	26.5	27.5	27.8	27.6	28.6	27.9	28.9	29.2
6H	26.3	27.2	26.7	27.6	27.9	27.9	28.8	28.3	29.2	29.5
8H	26.4	27.2	26.8	27.6	28.0	28.0	28.9	28.4	29.2	29.6
12H	26.4	27.2	26.8	27.6	28.0	28.0	28.8	28.5	29.2	29.6
8H 4H	26.3	27.2	26.7	27.5	27.9	27.6	28.5	28.0	28.8	29.2
6H	26.6	27.3	27.0	27.7	28.1	28.1	28.8	28.5	29.2	29.6
8H	26.7	27.3	27.1	27.7	28.2	28.2	28.8	28.7	29.3	29.7
12H	26.8	27.3	27.3	27.8	28.3	28.3	28.8	28.8	29.3	29.7
12H 4H	26.3	27.1	26.7	27.5	27.9	27.6	28.4	28.0	28.8	29.2
6H	26.6	27.2	27.0	27.6	28.1	28.1	28.7	28.5	29.1	29.6
8H	26.8	27.3	27.2	27.7	28.2	28.2	28.8	28.7	29.2	29.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.5					+ 0.2 / - 0.3				
2.0H	+ 0.5 / - 0.5					+ 0.4 / - 0.4				

CIE Pub.117, 442.5 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -2.8)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.481x1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:

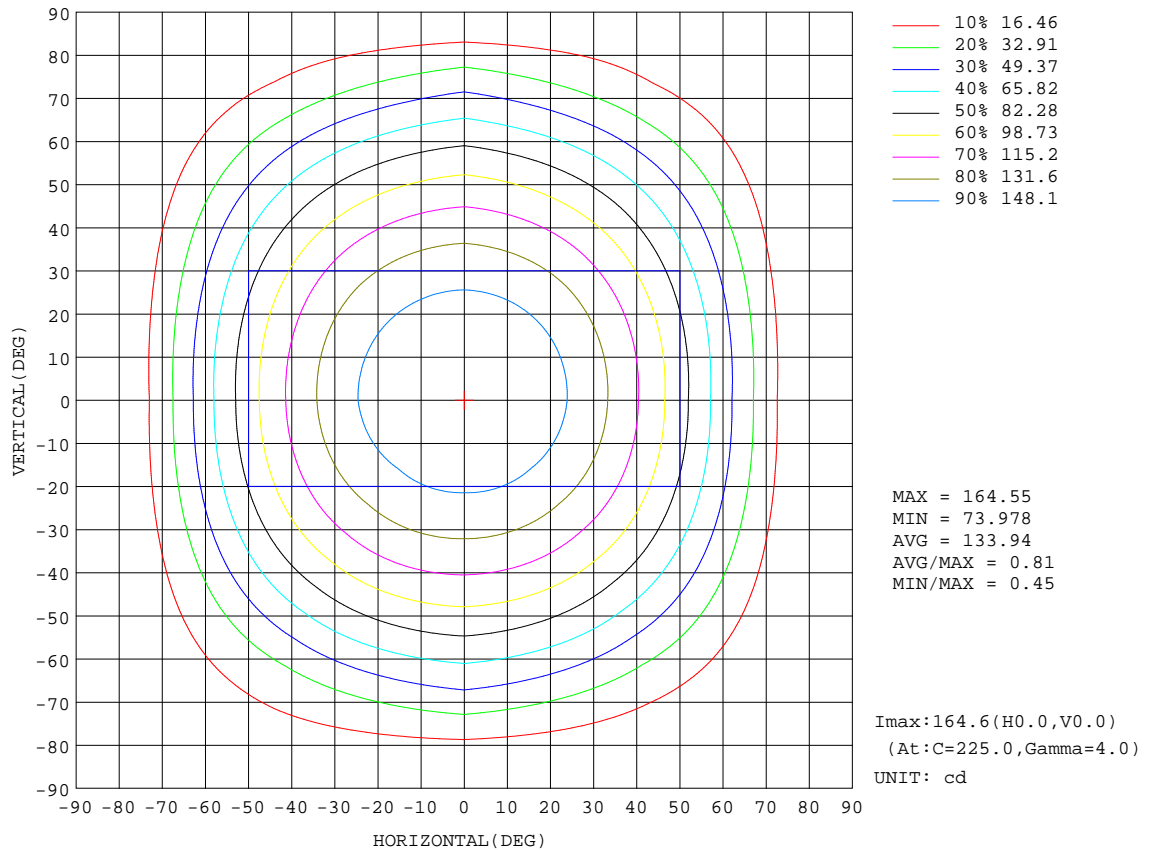
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	47	40	58	47	40	57	47	40	34
0.80	69	58	50	68	57	50	66	56	50	43
1.00	77	67	60	76	66	59	74	67	59	52
1.25	85	74	67	83	74	67	80	72	66	59
1.50	89	80	73	88	79	73	85	77	72	64
2.00	96	88	82	94	87	81	91	85	80	72
2.50	100	92	87	98	91	86	94	88	84	76
3.00	103	97	91	101	95	90	97	92	88	80
4.00	107	101	97	105	100	96	100	96	93	84
5.00	109	105	101	107	103	99	102	99	96	87
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:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.48lx1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:

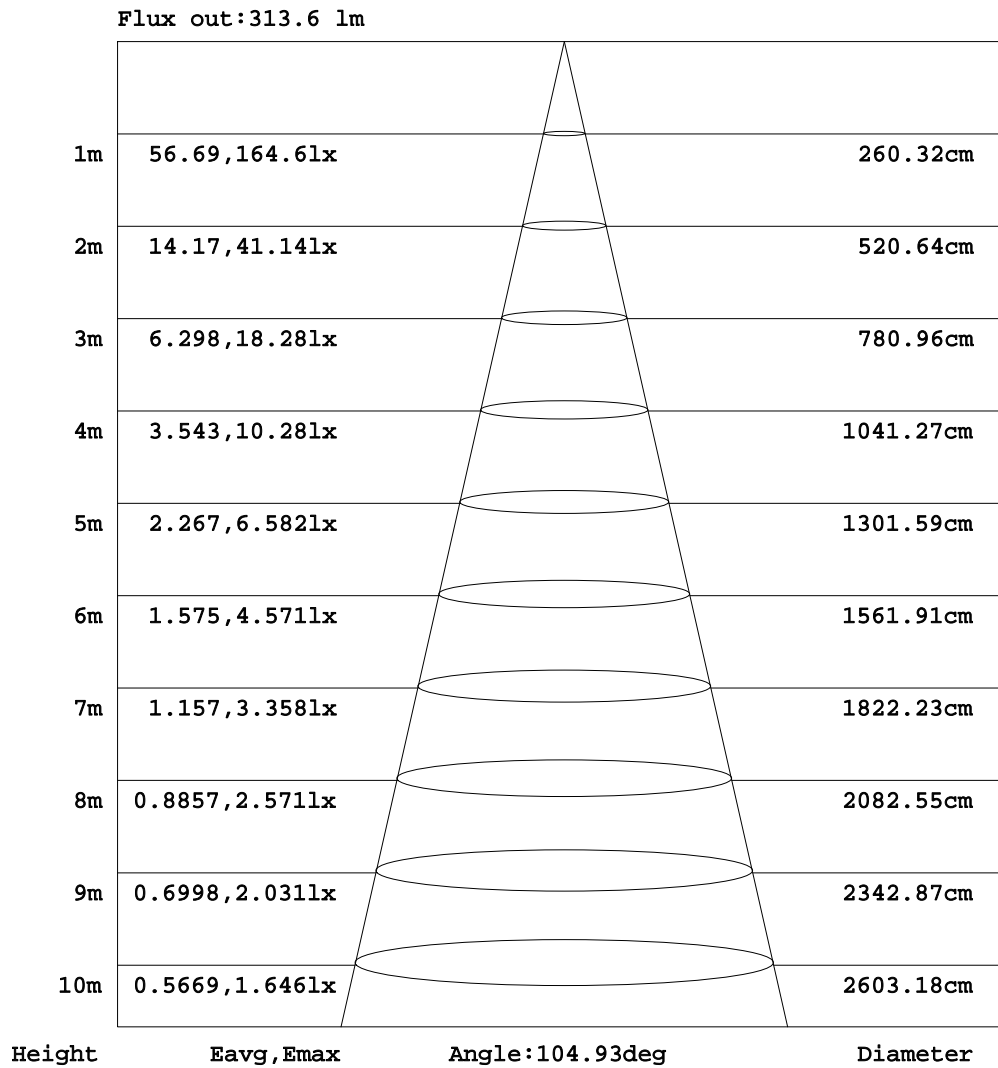


C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

AAI Figure

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.48lx1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:



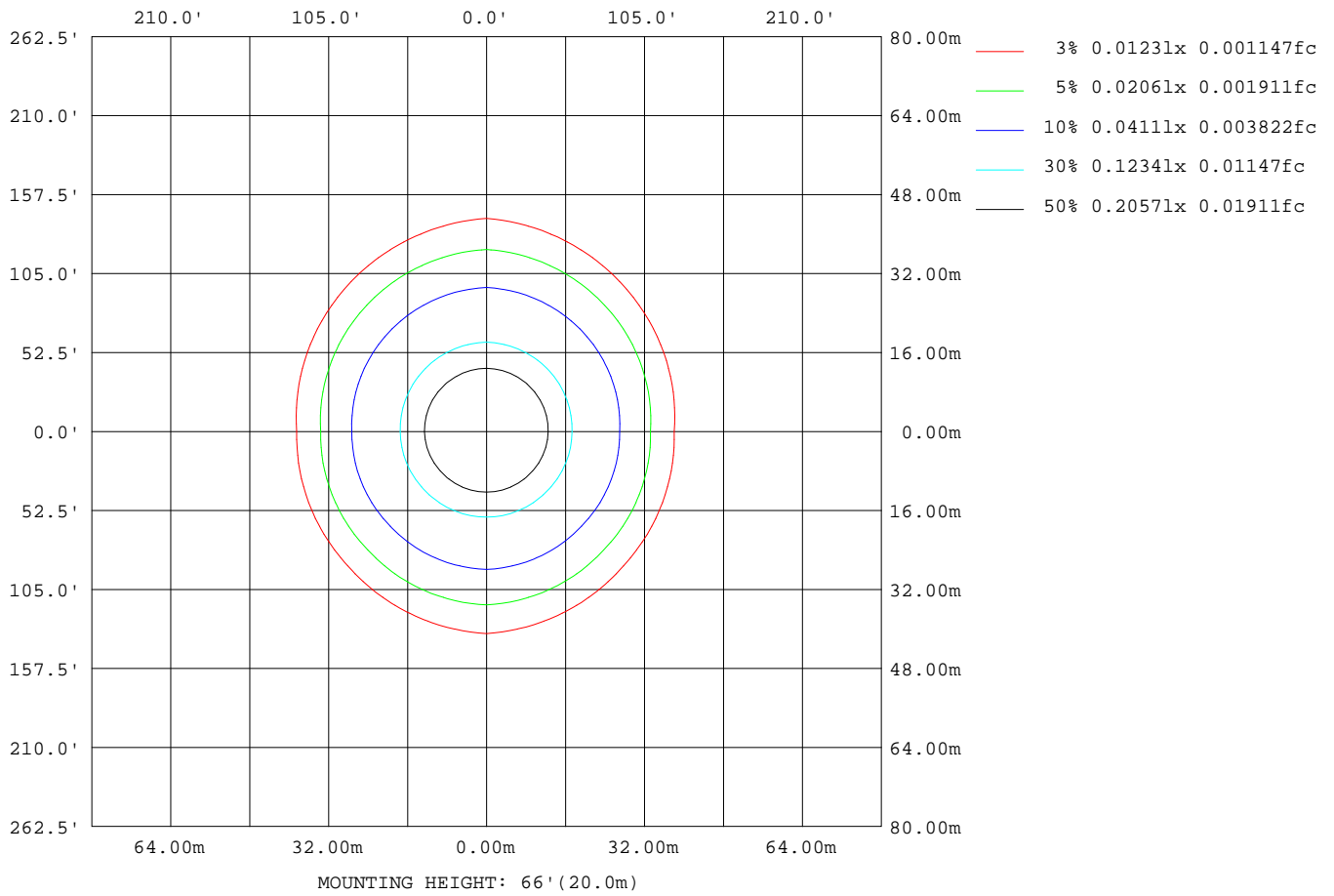
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.48lx1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:230.76V I:0.0305A P:6.4744W PF:0.9185 Freq:50.00Hz Lamp Flux:442.481x1 lm		
NAME: 136-185_4000K	TYPE:7W	WEIGHT:
SPEC.:4000K	DIM.:	SERIAL No.:
MFR.:	SUR.:0.037	Shielding Angle:

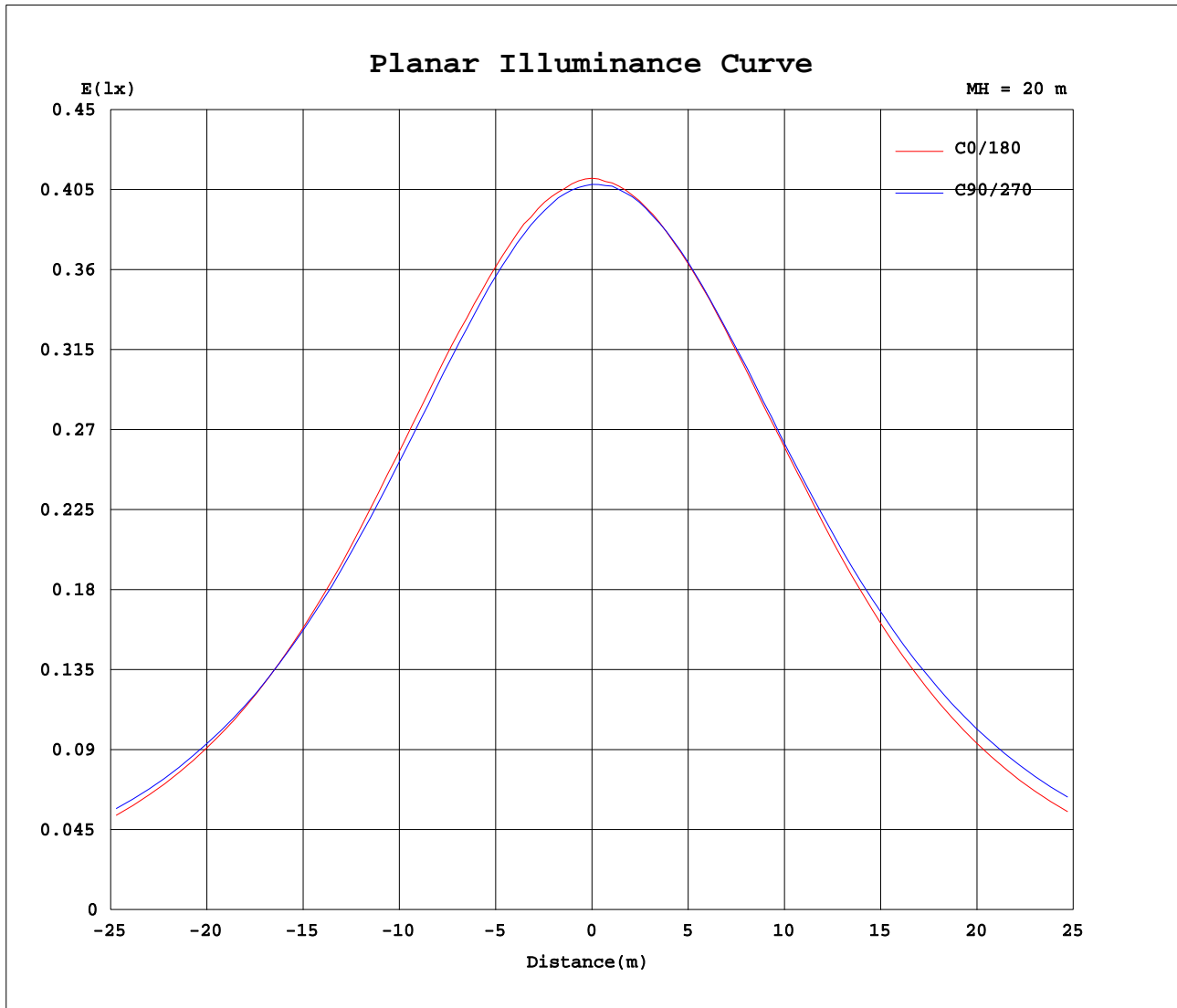
AvgL	cd/m2
L_0~180(65)av	23868
L_0~180(75)av	11458
L_0~180(85)av	11149
L_90~270(65)av	36222
L_90~270(75)av	32104
L_90~270(85)av	21605
L_45(65)av	29212
L_45(75)av	20196
L_45(85)av	20472

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity:65.0%
 Test Distance:9.900m [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: 2020-01-12

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000H_V1 SYSTEM V2.0.404.7
 Humidity: 65.0%
 Test Distance: 9.900m [K=1.0000]
 Remarks:

