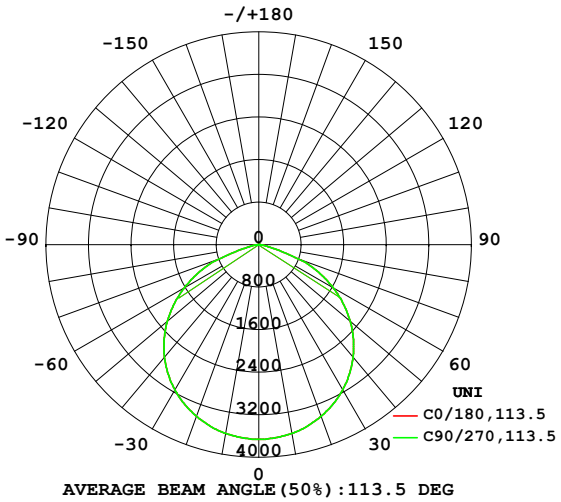
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.9V I:0.3113A P:70.22W PF:0.9810 Freq:50.01Hz UTHDi:0% ITHDi:0% Lamp Flux:10031.8x1 lm		
NAME: LHB19-070-5080-L00B01	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

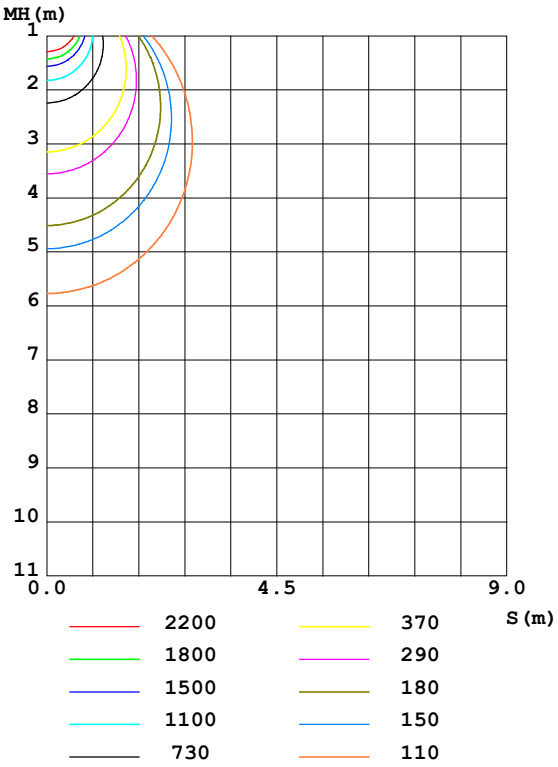
DATA OF LAMP		PHOTOMETRIC DATA Eff: 142.87 lm/W			
MODEL	SMD283	Imax(cd)	3663	S/MH(C0/180)	1.28
NOMINAL POWER(W)	70	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	10032	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	10031.8	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):113.5 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	3603	3603	3603	3603	3603	3603	3603	3603	0- 10	346.5	346.5	3.45,3.45
20	3434	3434	3434	3434	3434	3434	3434	3434	10- 20	997.7	1344	13.4,13.4
30	3156	3156	3156	3156	3156	3156	3156	3156	20- 30	1525	2869	28.6,28.6
40	2761	2761	2761	2761	2761	2761	2761	2761	30- 40	1859	4729	47.1,47.1
50	2247	2247	2247	2247	2247	2247	2247	2247	40- 50	1941	6670	66.5,66.5
60	1611	1611	1611	1611	1611	1611	1611	1611	50- 60	1733	8403	83.8,83.8
70	795.8	795.8	795.8	795.8	795.8	795.8	795.8	795.8	60- 70	1227	9630	96,96
80	101.4	101.4	101.4	101.4	101.4	101.4	101.4	101.4	70- 80	369.4	9999	99.7,99.7
90	3.106	3.106	3.106	3.106	3.106	3.106	3.106	3.106	80- 90	32.92	10032	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		

Conical surface Flux(90deg): 5706.4 lm

%lum = 56.9%
%lamp = 56.9%

Conical surface Flux(120deg): 8402.8 lm

%lum = 83.8%
%lamp = 83.8%

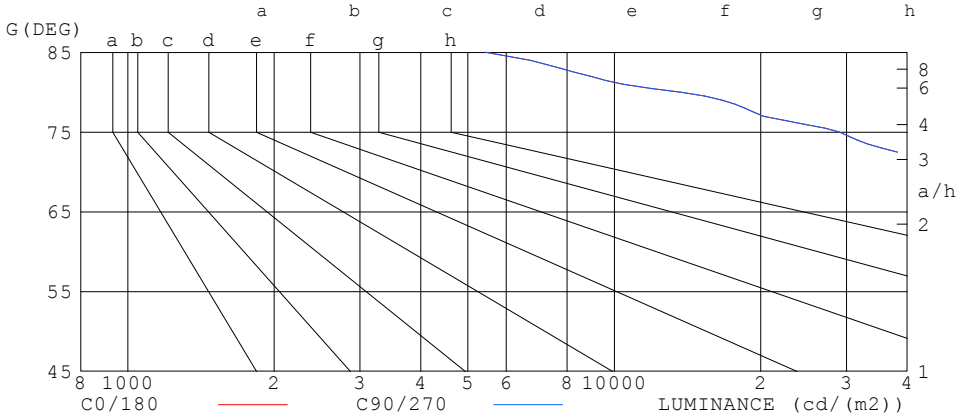
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

LUMINANCE LIMITATION CURVES

LUMINANCE LIMITATION CURVES

GLARE	CLASS	ILLUMINANCE (lx)							
1.15	A	2000	1000	500	<=300				
1.50	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.20	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	5433	5433
80	13725	13725
75	28991	28991
70	54671	54671
65	69377	69377
60	75688	75688
55	79604	79604
50	82150	82150
45	83680	83680

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

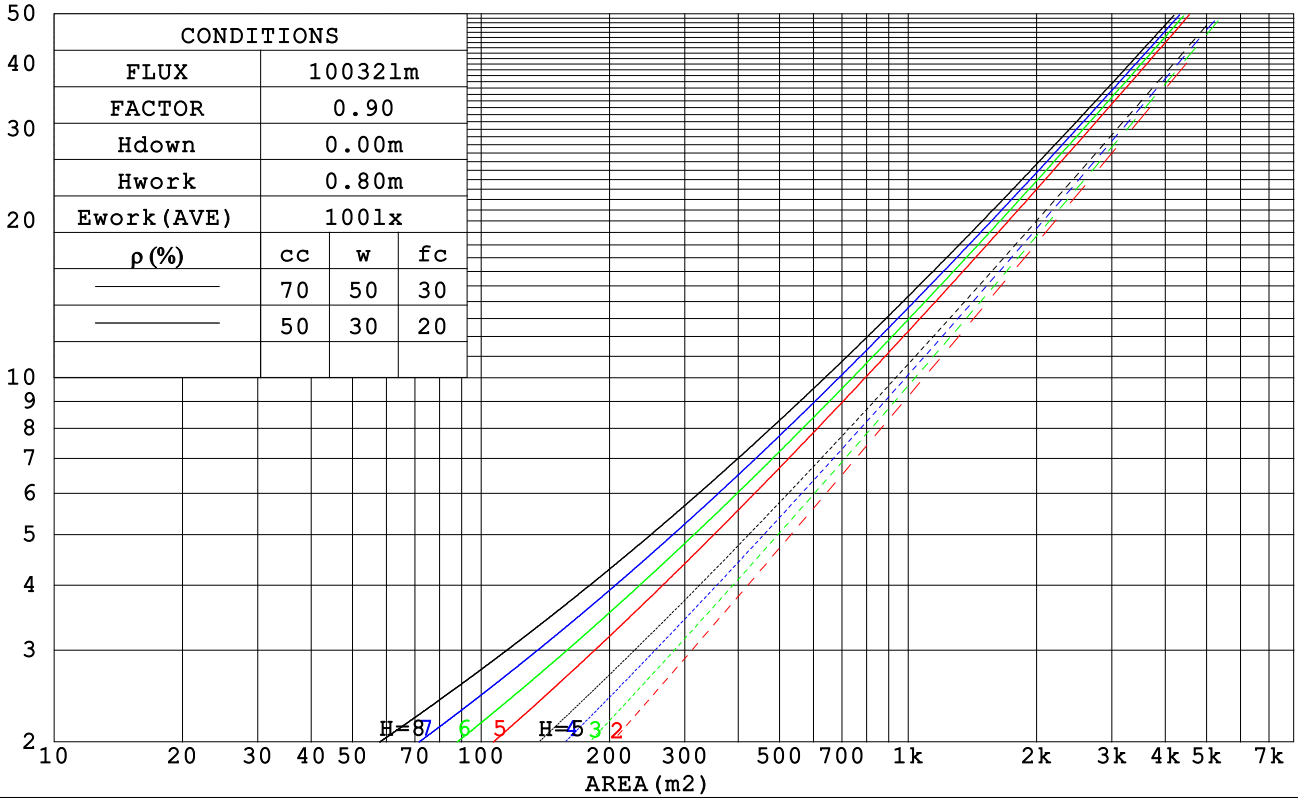
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

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			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	1.06	1.02	.98	1.03	.00	.97	.99	.96	.94	.95	.93	.91	.92	.90	.88	.86
2.0	.93	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.78	.75	.73
3.0	.82	.74	.68	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.64	.61
4.0	.72	.64	.57	.71	.63	.57	.69	.62	.56	.66	.60	.55	.64	.59	.55	.53
5.0	.65	.56	.49	.64	.55	.49	.61	.54	.49	.59	.53	.48	.58	.52	.48	.46
6.0	.58	.49	.43	.57	.49	.43	.55	.48	.43	.54	.47	.42	.52	.46	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.50	.43	.38	.49	.42	.37	.48	.42	.37	.35
8.0	.48	.40	.34	.47	.39	.34	.46	.39	.34	.45	.38	.33	.44	.38	.33	.31
9.0	.44	.36	.30	.43	.36	.30	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.37	.31	.27	.25

LAMPS

LUMINAIRE BUDGETARY DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

WEC AND CCEC

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 Coeffcients(WEC)									
0.0																
1.0	.278	.158	.050	.271	.154	.049	.258	.148	.047	.245	.142	.045	.234	.136	.044	
2.0	.271	.148	.046	.265	.146	.045	.253	.141	.044	.242	.136	.043	.233	.132	.041	
3.0	.256	.136	.041	.250	.134	.040	.240	.130	.040	.231	.126	.039	.222	.123	.038	
4.0	.239	.124	.037	.234	.123	.036	.225	.119	.036	.217	.116	.035	.209	.114	.035	
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.203	.107	.032	.196	.105	.032	
6.0	.208	.104	.030	.204	.103	.030	.197	.101	.029	.190	.099	.029	.184	.097	.029	
7.0	.195	.096	.027	.191	.095	.027	.185	.093	.027	.179	.092	.027	.173	.090	.026	
8.0	.182	.089	.025	.179	.088	.025	.174	.087	.025	.168	.085	.025	.163	.084	.024	
9.0	.171	.083	.023	.169	.082	.023	.164	.081	.023	.159	.080	.023	.154	.078	.023	
10.0	.161	.077	.021	.159	.077	.021	.154	.076	.021	.150	.074	.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	.178	.156	.137	.152	.134	.118	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.169	.132	.101	.145	.114	.087	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.121	.071	.035	.083	.050	.025	.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	.026	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

UGR(Unified Glare Rating) Table

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	27.6	29.2	28.0	29.5	29.8	27.6	29.2	28.0	29.5	29.8
3H	29.1	30.5	29.5	30.8	31.2	29.1	30.5	29.5	30.8	31.2
4H	29.2	30.6	29.6	30.9	31.3	29.2	30.6	29.6	30.9	31.3
6H	29.2	30.5	29.6	30.8	31.2	29.2	30.5	29.6	30.8	31.2
8H	29.2	30.4	29.6	30.8	31.2	29.2	30.4	29.6	30.8	31.2
12H	29.2	30.3	29.6	30.7	31.1	29.2	30.3	29.6	30.7	31.1
4H 2H	28.2	29.5	28.6	29.9	30.2	28.2	29.5	28.6	29.9	30.2
3H	29.7	30.8	30.1	31.2	31.6	29.7	30.8	30.1	31.2	31.6
4H	29.9	30.9	30.3	31.3	31.7	29.9	30.9	30.3	31.3	31.7
6H	29.9	30.8	30.4	31.2	31.7	29.9	30.8	30.4	31.2	31.7
8H	29.9	30.7	30.3	31.1	31.6	29.9	30.7	30.3	31.1	31.6
12H	29.8	30.6	30.3	31.0	31.5	29.8	30.6	30.3	31.0	31.5
8H 4H	29.9	30.7	30.4	31.1	31.6	29.9	30.7	30.4	31.1	31.6
6H	29.9	30.6	30.4	31.1	31.6	29.9	30.6	30.4	31.1	31.6
8H	29.9	30.5	30.4	31.0	31.5	29.9	30.5	30.4	31.0	31.5
12H	29.9	30.4	30.4	30.9	31.5	29.9	30.4	30.4	30.9	31.5
12H 4H	29.9	30.6	30.4	31.1	31.5	29.9	30.6	30.4	31.1	31.5
6H	29.9	30.5	30.4	31.0	31.5	29.9	30.5	30.4	31.0	31.5
8H	29.9	30.4	30.4	30.9	31.5	29.9	30.4	30.4	30.9	31.5
CIE190: 2010										

CIE190: 2010
Area: 0.04256 m2

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

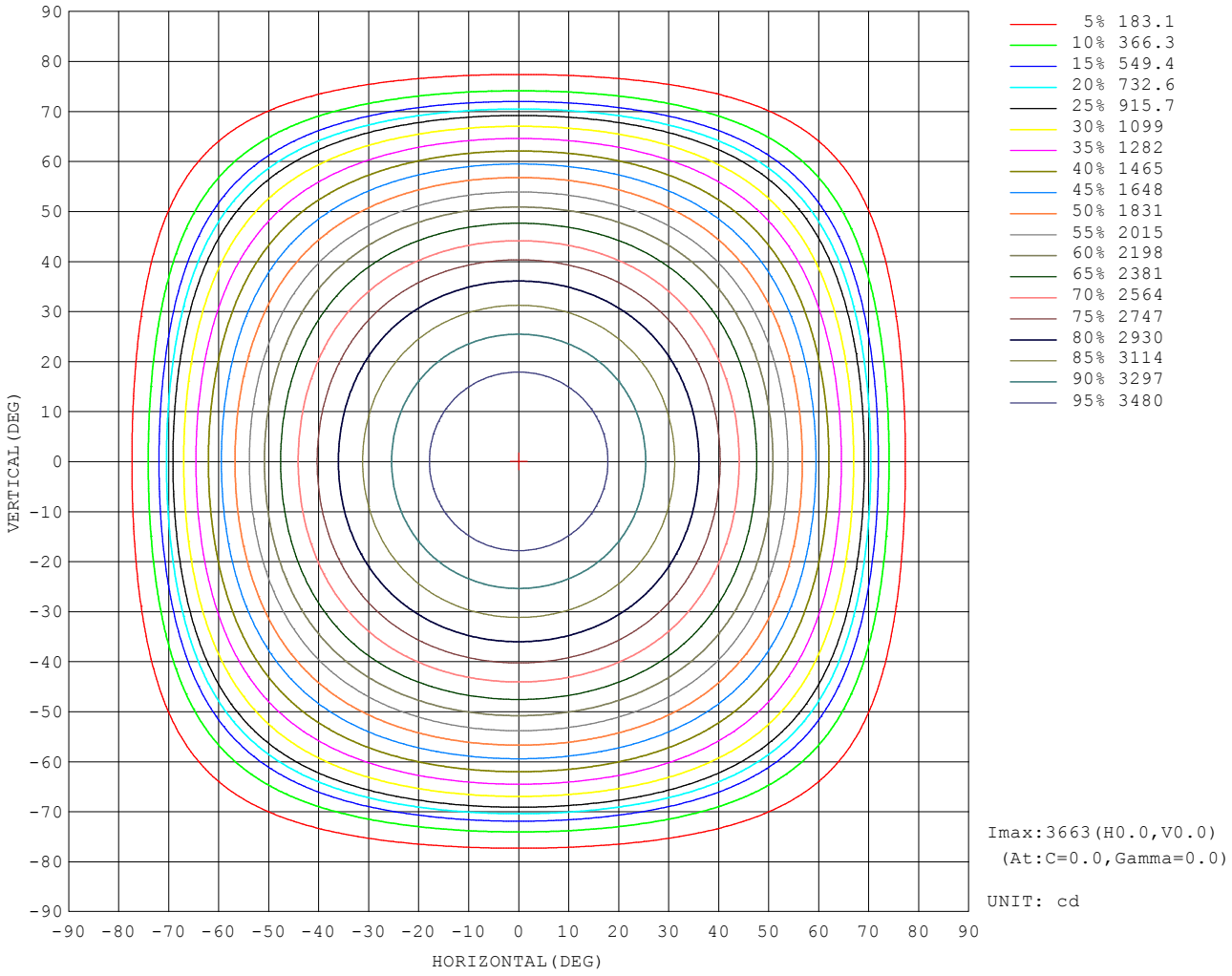
UTILIZATION FACTORS TABLE

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	59	47	40	58	47	40	57	46	40	34
0.80	69	58	51	68	57	50	66	57	50	43
1.00	78	67	60	77	67	60	74	68	59	52
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	88	80	74	86	78	73	65
2.00	97	89	83	95	88	82	92	86	81	73
2.50	101	93	88	99	92	87	95	89	85	77
3.00	104	98	93	102	96	91	98	93	89	81
4.00	108	103	98	105	101	97	101	97	94	86
5.00	110	106	102	108	104	100	103	100	97	88
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

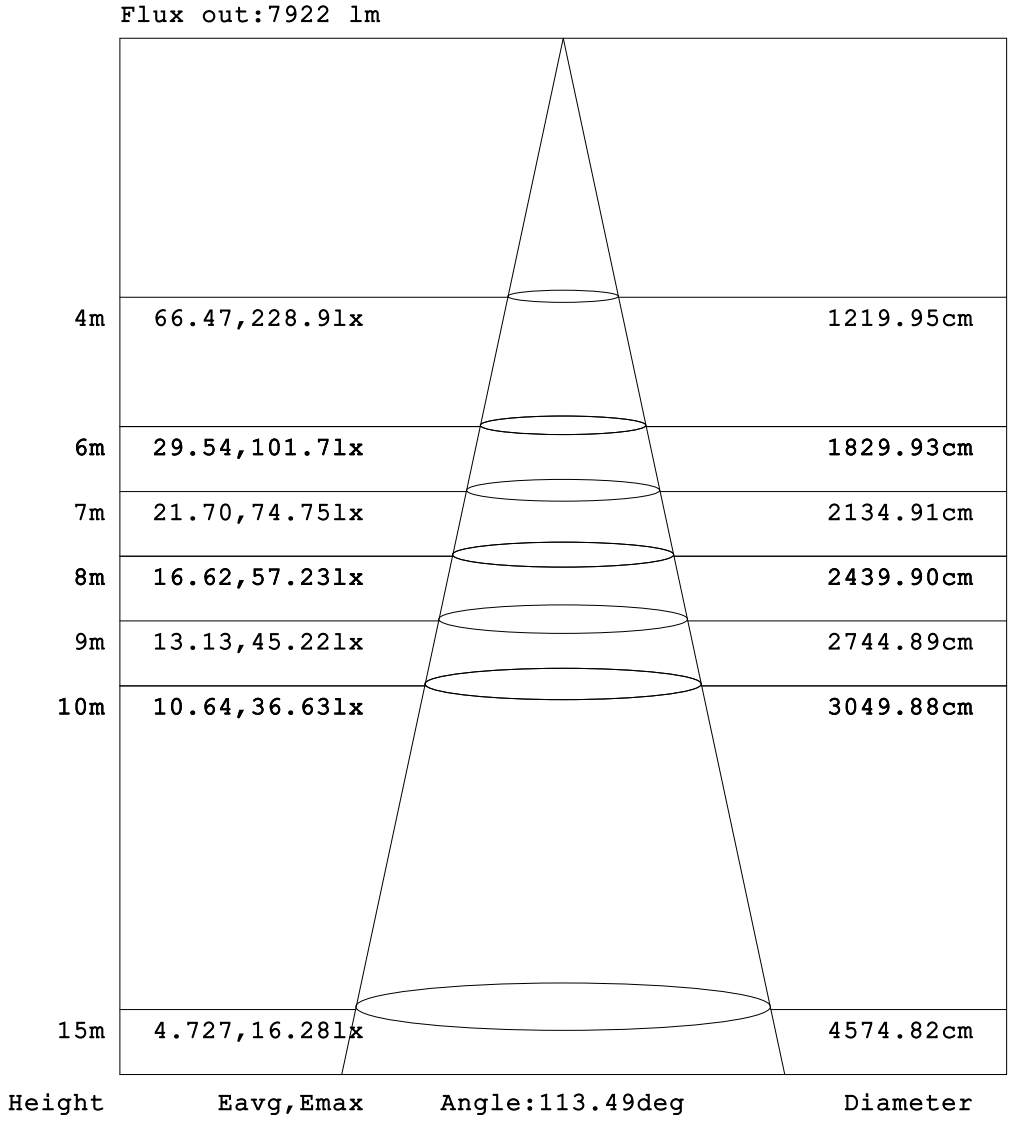
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

AAI Figure

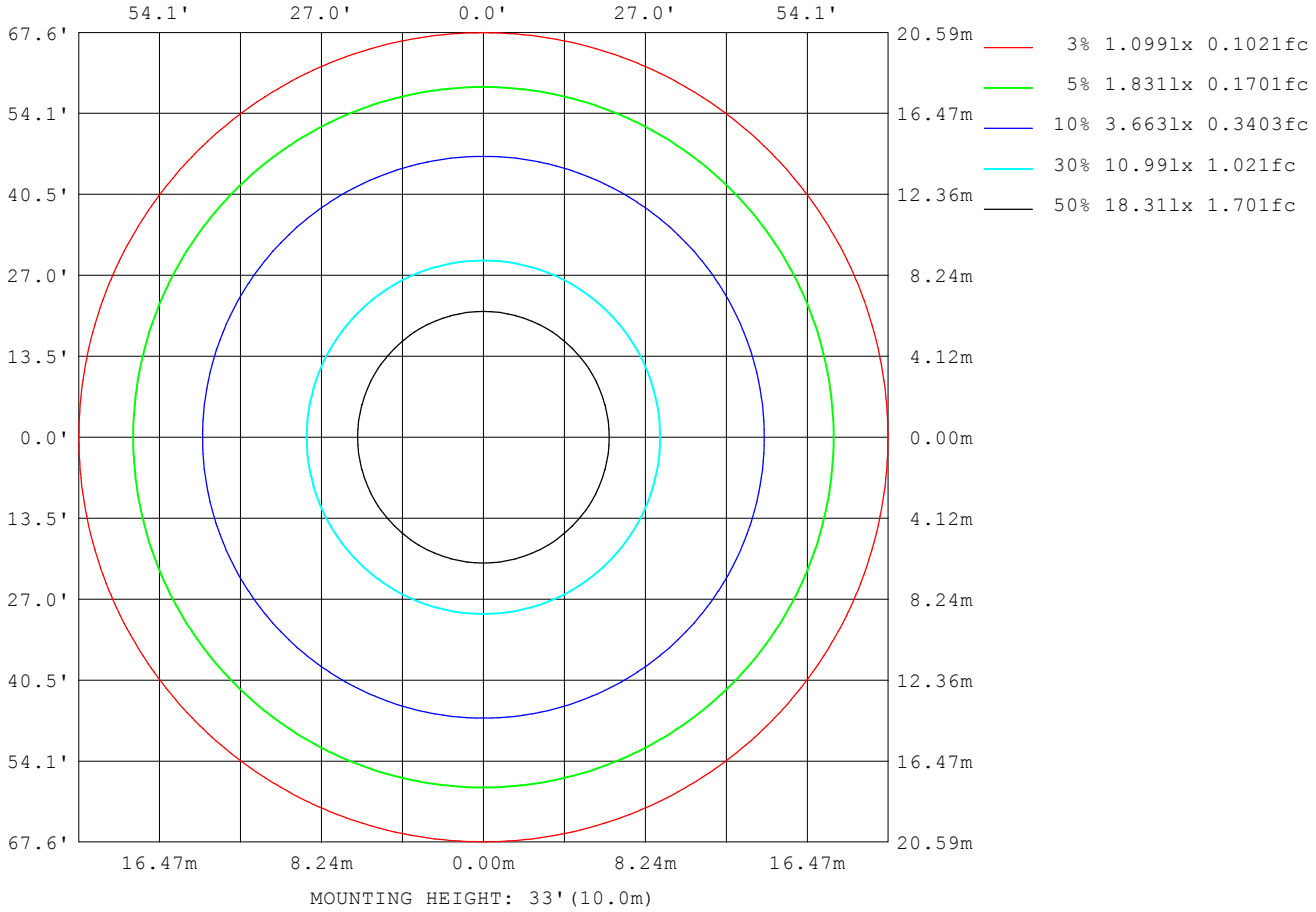


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

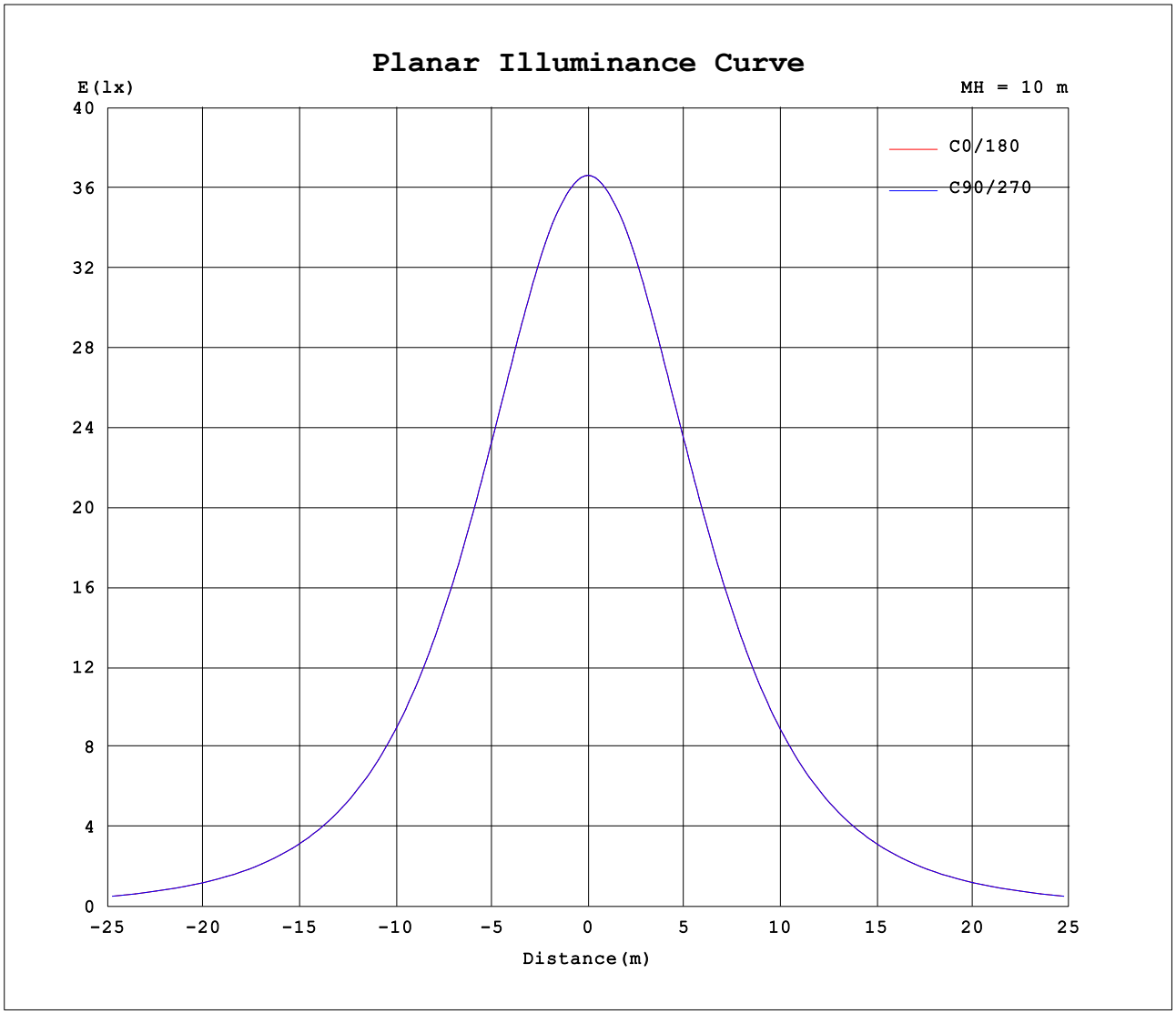
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks: