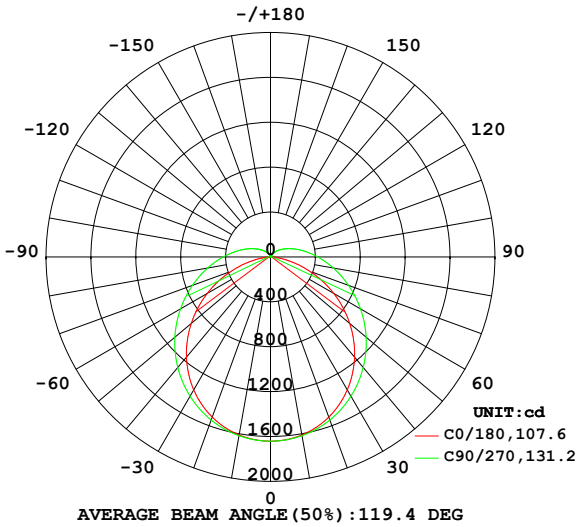
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.0V I:0.184A P:40.0W PF:0.946 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:5922.4x1 lm		
NAME: LHB13-040-4080-L00C182	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

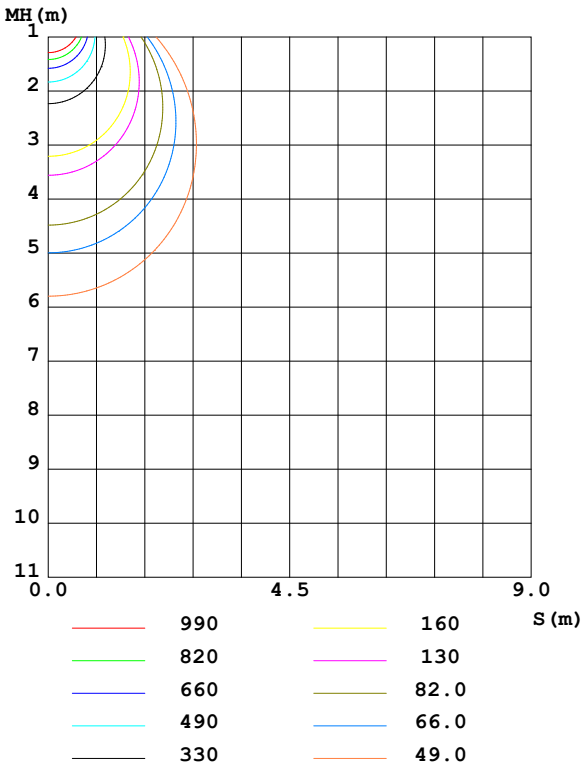
DATA OF LAMP		PHOTOMETRIC DATA Eff: 148.06 lm/W			
MODEL	/	Imax(cd)	1642	S/MH(C0/180)	1.24
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.30
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	5922.4	η UP,DN(C0-180)	4.9,45.1
NOMINAL FLUX(lm)	5922.4	CIE CLASS	DIRECT	η UP,DN(C180-360)	4.9,45.1
LAMPS INSIDE	1	η up(%)	9.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	/	η down(%)	90.3	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):119.4 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1611	1614	1617	1614	1611	1614	1617	1614	0- 10	155.4	155.4	2.62,2.62
20	1518	1533	1546	1533	1518	1533	1546	1533	10- 20	446.0	601.4	10.2,10.2
30	1368	1402	1433	1402	1368	1402	1433	1402	20- 30	678.8	1280	21.6,21.6
40	1165	1230	1285	1230	1165	1230	1285	1230	30- 40	825.3	2106	35.6,35.6
50	921.4	1030	1113	1030	921.4	1030	1113	1030	40- 50	870.7	2976	50.3,50.3
60	651.2	818.3	926.0	818.3	651.2	818.3	926.0	818.3	50- 60	817.9	3794	64.1,64.1
70	371.3	615.0	739.8	615.0	371.3	615.0	739.8	615.0	60- 70	687.4	4482	75.7,75.7
80	127.1	435.6	568.5	435.6	127.1	435.6	568.5	435.6	70- 80	516.1	4998	84.4,84.4
90	5.818	292.7	421.3	292.7	5.818	292.7	421.3	292.7	80- 90	350.2	5348	90.3,90.3
100	16.16	189.2	303.6	189.2	16.16	189.2	303.6	189.2	90-100	231.0	5579	94.2,94.2
110	11.62	119.3	212.5	119.3	11.62	119.3	212.5	119.3	100-110	149.9	5729	96.7,96.7
120	8.680	73.75	143.3	73.75	8.680	73.75	143.3	73.75	110-120	92.15	5821	98.3,98.3
130	5.931	44.40	91.60	44.40	5.931	44.40	91.60	44.40	120-130	53.42	5874	99.2,99.2
140	4.052	26.14	54.41	26.14	4.052	26.14	54.41	26.14	130-140	28.25	5903	99.7,99.7
150	2.637	13.52	28.84	13.52	2.637	13.52	28.84	13.52	140-150	13.14	5916	99.9,99.9
160	2.237	7.177	12.30	7.177	2.237	7.177	12.30	7.177	150-160	4.960	5921	100,100
170	2.053	2.263	4.668	2.263	2.053	2.263	4.668	2.263	160-170	1.451	5922	100,100
180	2.516	2.479	1.995	2.479	2.516	2.479	1.995	2.479	170-180	0.2171	5922	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 2541.6 lm

%lum = 42.9%
%lamp = 42.9%

Conical surface Flux(120deg): 3794.1 lm

%lum = 64.1%
%lamp = 64.1%

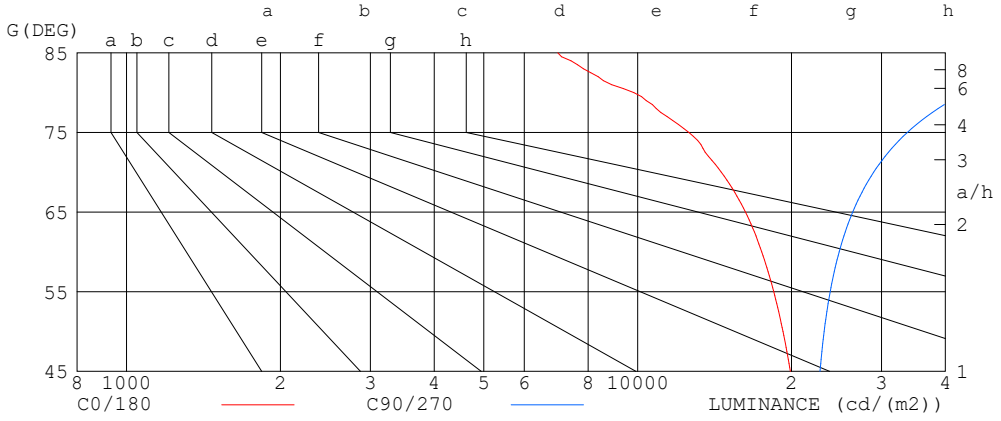
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
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	6980	75456
80	9829	43826
75	12596	33707
70	14580	28955
65	16253	26349
60	17490	24792
55	18467	23813
50	19250	23168
45	19896	22742

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

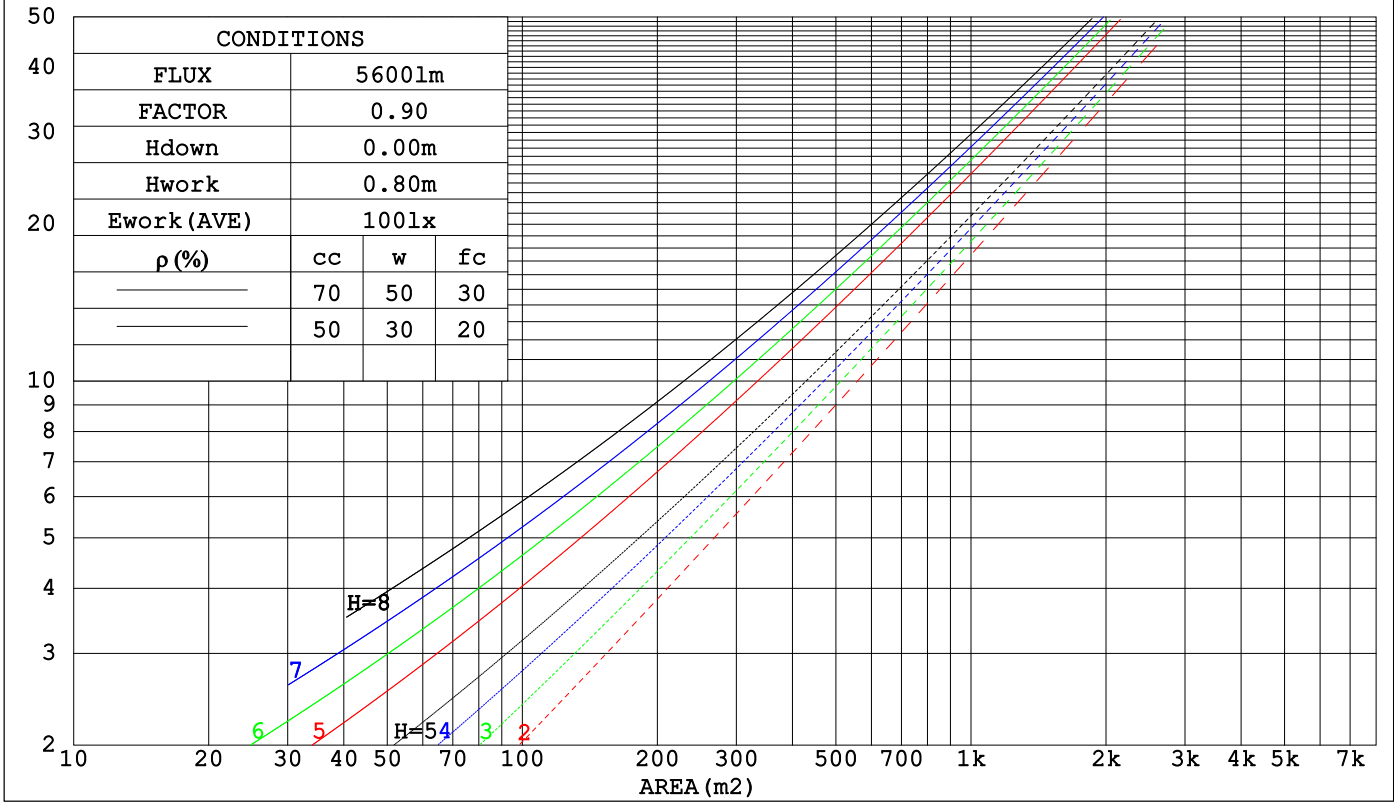
γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

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	1.17	1.17	1.17	1.13	1.13	1.13	1.06	1.06	1.06	.99	.99	.99	.93	.93	.93	.90
1.0	.99	.94	.89	.96	.91	.87	.89	.86	.82	.84	.81	.78	.79	.76	.74	.71
2.0	.85	.78	.71	.82	.75	.70	.77	.71	.67	.72	.68	.64	.68	.64	.61	.58
3.0	.74	.65	.58	.72	.64	.57	.67	.61	.55	.63	.58	.53	.60	.55	.51	.48
4.0	.65	.56	.49	.63	.55	.48	.60	.52	.46	.56	.50	.45	.53	.48	.43	.41
5.0	.58	.49	.42	.57	.48	.41	.53	.46	.40	.50	.44	.39	.47	.42	.37	.35
6.0	.52	.43	.36	.51	.42	.36	.48	.40	.35	.45	.39	.34	.43	.37	.33	.30
7.0	.47	.38	.32	.46	.38	.32	.44	.36	.31	.41	.35	.30	.39	.33	.29	.27
8.0	.43	.34	.28	.42	.34	.28	.40	.33	.27	.38	.31	.27	.36	.30	.26	.24
9.0	.39	.31	.25	.38	.31	.25	.37	.29	.25	.35	.28	.24	.33	.27	.23	.21
10.0	.36	.28	.23	.35	.28	.23	.34	.27	.22	.32	.26	.22	.31	.25	.21	.19

LAMPS

LUMINAIRE BUDGETARY DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
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	.362	.206	.065	.352	.201	.064	.333	.191	.061	.315	.182	.058	.299	.173	.056	
2.0	.320	.176	.054	.311	.171	.053	.294	.164	.051	.278	.156	.049	.264	.149	.047	
3.0	.288	.153	.046	.280	.150	.045	.264	.143	.044	.250	.137	.042	.237	.131	.041	
4.0	.261	.136	.040	.254	.133	.039	.240	.127	.038	.227	.122	.037	.215	.117	.036	
5.0	.238	.122	.035	.232	.119	.035	.219	.114	.034	.208	.110	.033	.197	.105	.032	
6.0	.219	.110	.031	.213	.108	.031	.202	.104	.030	.192	.100	.029	.182	.096	.028	
7.0	.203	.100	.028	.198	.098	.028	.187	.095	.027	.178	.091	.027	.169	.088	.026	
8.0	.189	.092	.026	.184	.090	.026	.174	.087	.025	.166	.084	.024	.158	.081	.024	
9.0	.176	.085	.024	.172	.084	.023	.163	.081	.023	.155	.078	.022	.148	.075	.022	
10.0	.165	.079	.022	.161	.078	.022	.153	.075	.021	.146	.072	.021	.139	.070	.020	

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	.264	.264	.264	.226	.226	.226	.154	.154	.154	.089	.089	.089	.028	.028	.028	
1.0	.258	.230	.205	.221	.198	.176	.151	.136	.122	.087	.079	.071	.028	.025	.023	
2.0	.251	.207	.170	.215	.178	.147	.147	.123	.102	.085	.072	.060	.027	.023	.020	
3.0	.243	.190	.147	.209	.164	.128	.143	.114	.090	.083	.066	.053	.027	.022	.017	
4.0	.236	.177	.132	.202	.153	.115	.139	.107	.081	.080	.062	.048	.026	.020	.016	
5.0	.228	.167	.122	.196	.144	.106	.135	.101	.075	.078	.059	.044	.025	.019	.015	
6.0	.220	.159	.115	.189	.138	.100	.131	.096	.071	.076	.057	.042	.024	.019	.014	
7.0	.213	.152	.109	.184	.132	.095	.127	.092	.067	.074	.054	.040	.024	.018	.013	
8.0	.207	.146	.105	.178	.127	.091	.123	.089	.065	.072	.053	.039	.023	.017	.013	
9.0	.201	.142	.102	.173	.123	.089	.120	.086	.063	.070	.051	.038	.023	.017	.012	
10.0	.195	.137	.099	.168	.119	.086	.116	.084	.061	.068	.050	.037	.022	.016	.012	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
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	21.1	22.6	21.6	23.1	23.6	22.7	24.2	23.2	24.7	25.2
3H	22.7	24.1	23.3	24.6	25.2	25.3	26.7	25.8	27.2	27.8
4H	23.3	24.6	23.9	25.2	25.7	26.6	27.9	27.2	28.5	29.1
6H	23.7	24.9	24.3	25.5	26.1	28.0	29.2	28.6	29.8	30.4
8H	23.8	25.0	24.4	25.5	26.2	28.8	29.9	29.4	30.5	31.1
12H	23.9	25.0	24.4	25.5	26.2	29.6	30.8	30.2	31.3	32.0
4H 2H	22.1	23.4	22.6	23.9	24.5	23.3	24.6	23.9	25.1	25.7
3H	24.1	25.2	24.6	25.7	26.4	26.2	27.3	26.8	27.9	28.5
4H	24.9	25.9	25.4	26.4	27.1	27.7	28.8	28.3	29.3	30.0
6H	25.4	26.3	26.0	26.9	27.6	29.4	30.3	30.0	30.9	31.5
8H	25.6	26.5	26.2	27.1	27.7	30.3	31.1	30.9	31.7	32.4
12H	25.7	26.5	26.4	27.1	27.8	31.3	32.0	31.9	32.7	33.3
8H 4H	25.8	26.6	26.4	27.2	27.9	28.1	29.0	28.7	29.6	30.3
6H	26.7	27.4	27.3	28.1	28.8	30.0	30.8	30.7	31.4	32.1
8H	27.1	27.7	27.7	28.4	29.1	31.1	31.8	31.8	32.4	33.1
12H	27.3	27.9	28.0	28.6	29.3	32.4	33.0	33.0	33.6	34.4
12H 4H	26.1	26.9	26.7	27.5	28.2	28.2	28.9	28.8	29.6	30.3
6H	27.2	27.8	27.8	28.5	29.2	30.2	30.8	30.8	31.4	32.2
8H	27.7	28.3	28.4	28.9	29.7	31.4	31.9	32.0	32.6	33.3
CIE190: 2010										

CIE190: 2010
Area: 0.07469 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

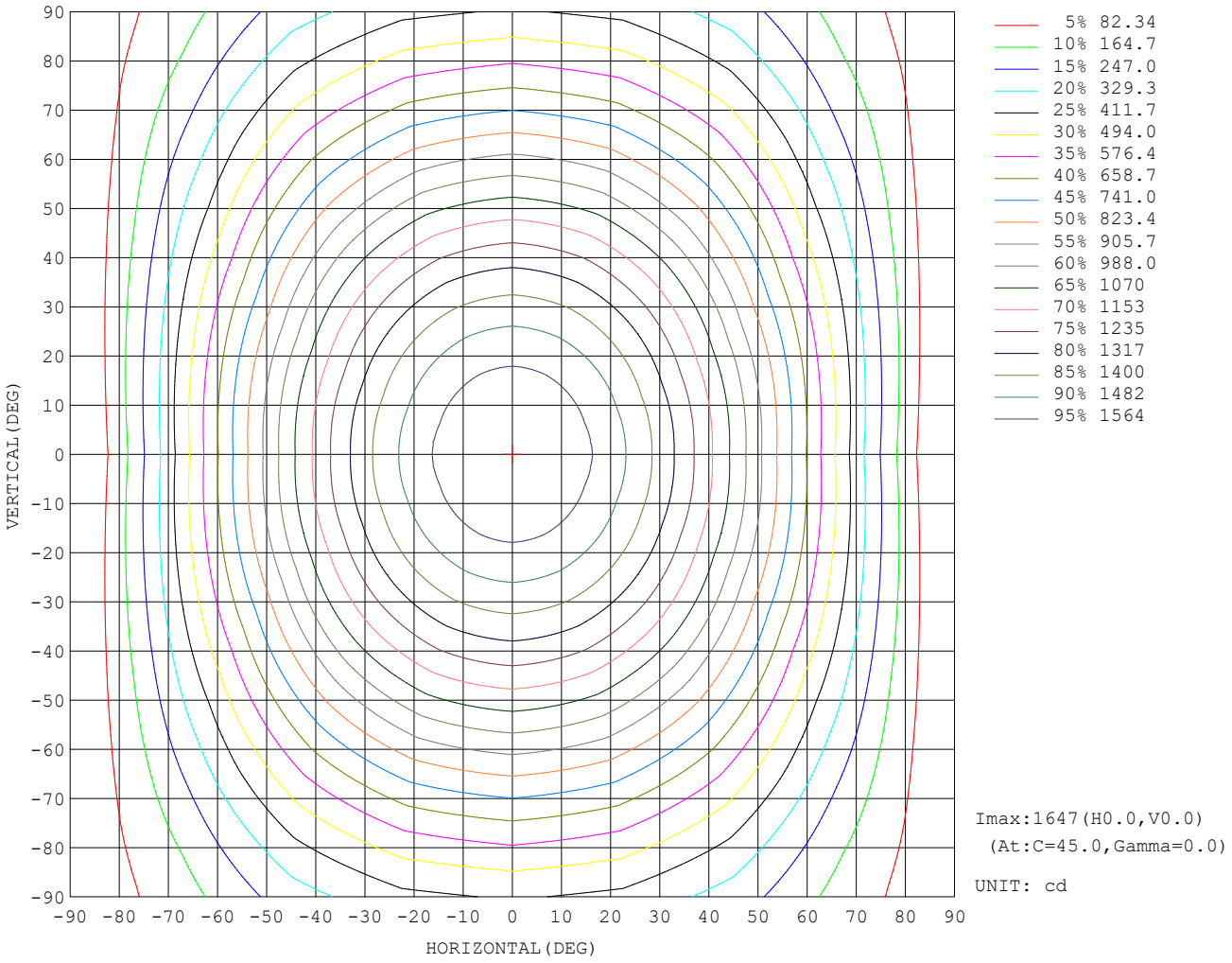
UTILIZATION FACTORS TABLE

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	52	40	33	51	40	33	50	39	32	26
0.80	61	49	41	60	48	41	58	47	40	33
1.00	69	57	49	68	56	49	65	57	48	40
1.25	76	64	56	74	63	56	71	61	55	46
1.50	81	70	62	79	69	61	75	66	60	51
2.00	88	78	71	86	77	69	81	73	67	57
2.50	93	83	76	90	81	75	85	78	72	61
3.00	96	88	81	93	86	79	88	82	76	65
4.00	101	93	87	97	91	86	92	86	82	70
5.00	103	97	92	100	94	90	94	89	86	73
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

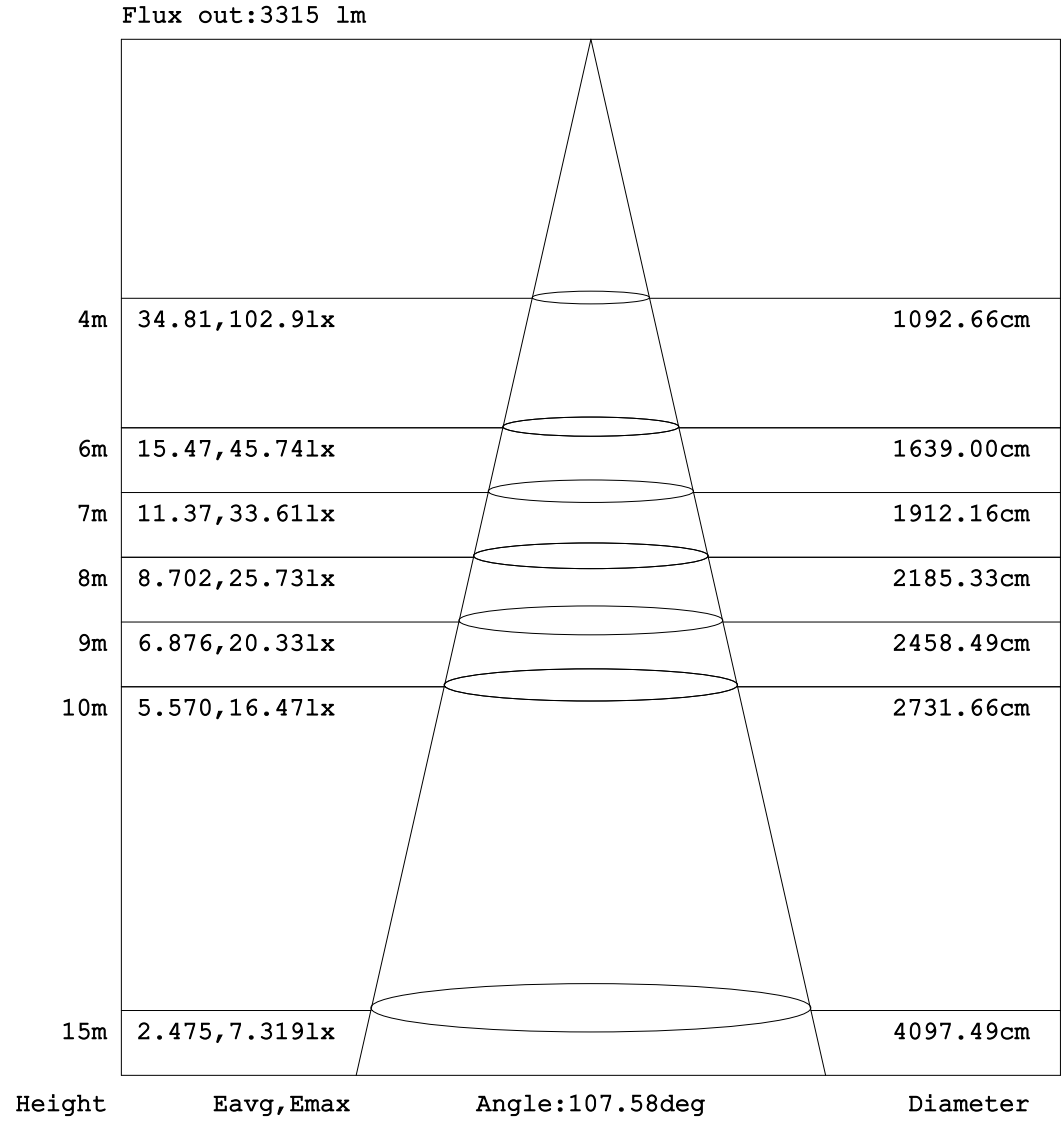
ISOCANDELA DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

AAI Figure

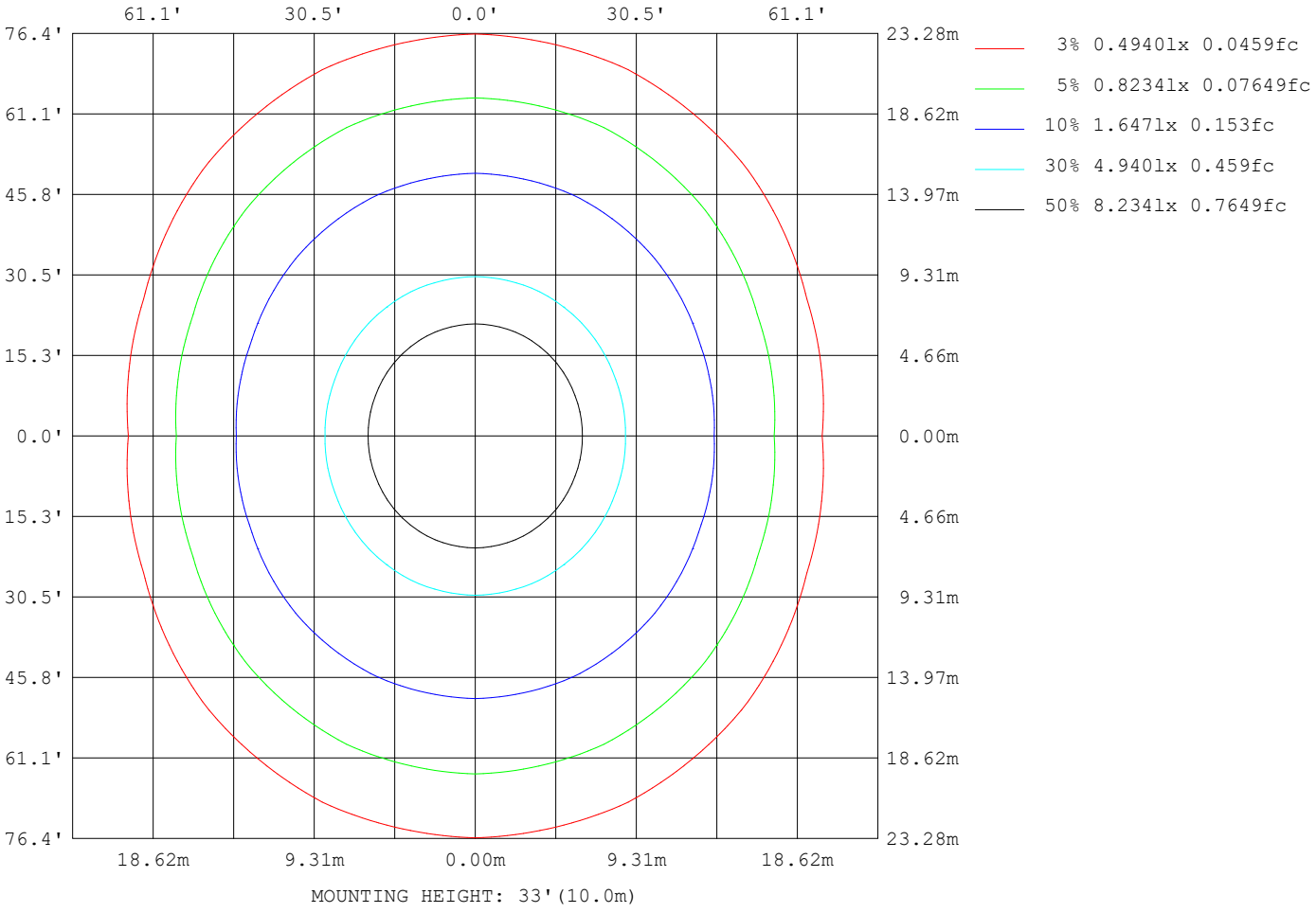


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

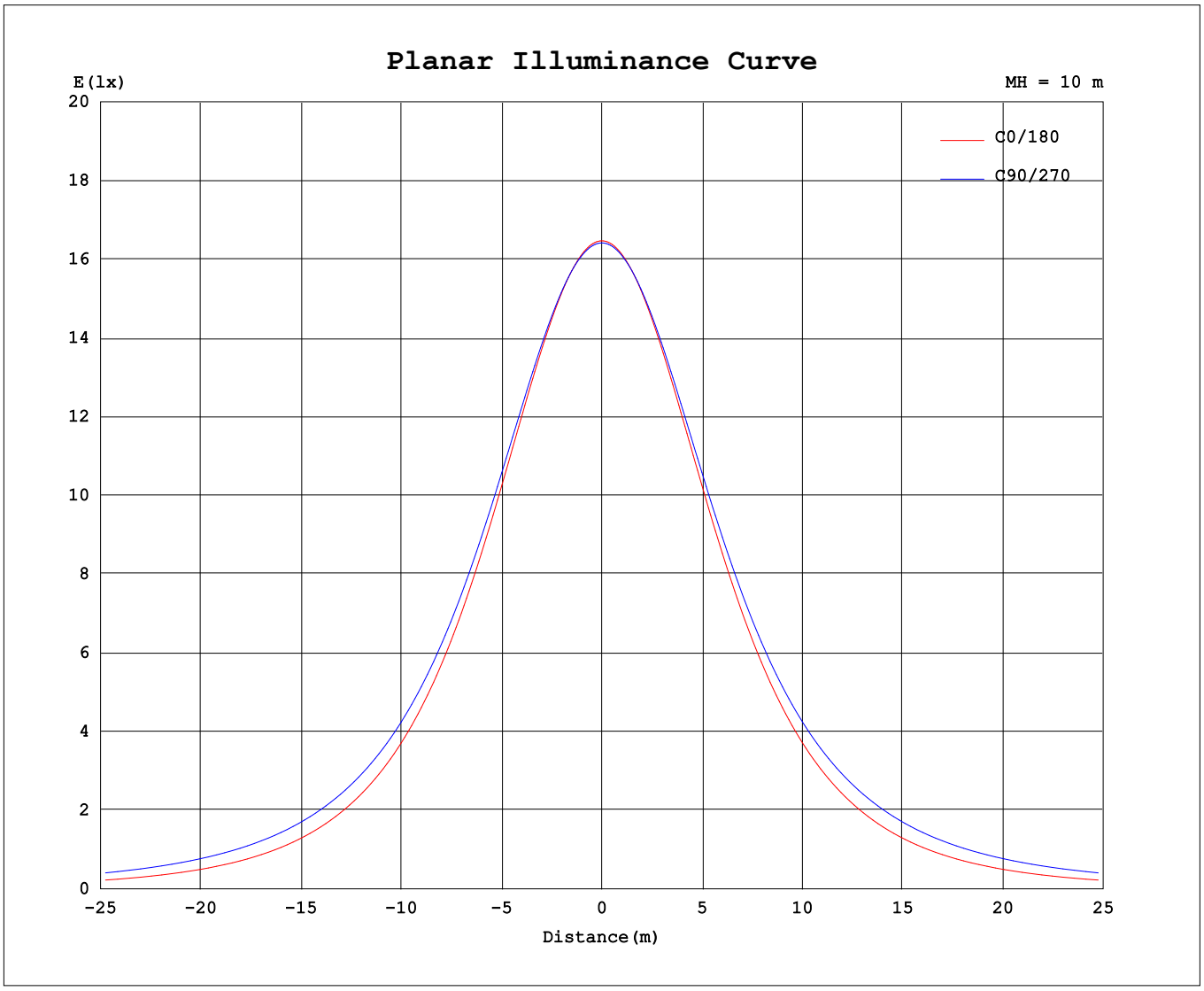
ISOLUX DIAGRAM



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks: