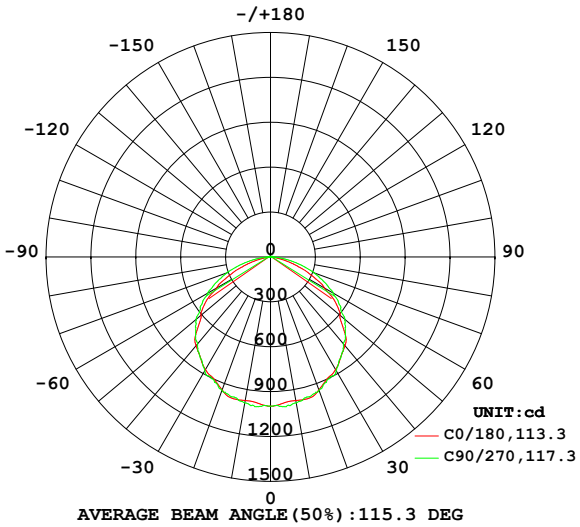
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.0V I:0.093A P:20.0W PF:0.934 Freq:50.00Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:3043.83x1 lm		
NAME: LHB13-020-4080-L00C184	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

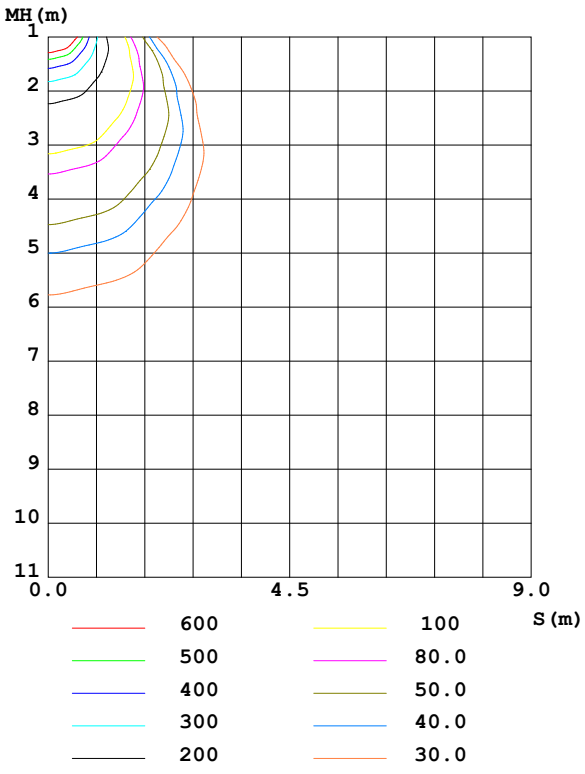
DATA OF LAMP		PHOTOMETRIC DATA Eff: 152.19 lm/W			
MODEL	/	Imax(cd)	1006	S/MH(C0/180)	1.30
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	3043.8	η UP,DN(C0-180)	0.6,49.4
NOMINAL FLUX(lm)	3043.83	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,49.4
LAMPS INSIDE	1	η up(%)	1.2	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	/	η down(%)	98.8	CIBSE SHR MAX	1.50

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):115.3 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	974.3	979.7	990.9	979.7	974.3	979.7	990.9	979.7	0- 10	94.08	94.08	3.09,3.09
20	945.9	952.5	948.4	952.5	945.9	952.5	948.4	952.5	10- 20	274.8	368.8	12.1,12.1
30	869.4	872.6	878.6	872.6	869.4	872.6	878.6	872.6	20- 30	421.4	790.3	26,26
40	774.4	773.6	757.6	773.6	774.4	773.6	757.6	773.6	30- 40	518.2	1309	43,43
50	606.6	636.7	647.8	636.7	606.6	636.7	647.8	636.7	40- 50	548.1	1857	61,61
60	419.1	497.3	485.0	497.3	419.1	497.3	485.0	497.3	50- 60	503.8	2360	77.5,77.5
70	214.1	309.5	310.2	309.5	214.1	309.5	310.2	309.5	60- 70	379.1	2740	90,90
80	49.48	127.6	122.7	127.6	49.48	127.6	122.7	127.6	70- 80	210.8	2950	96.9,96.9
90	1.876	16.46	17.41	16.46	1.876	16.46	17.41	16.46	80- 90	56.78	3007	98.8,98.8
100	8.482	12.15	11.56	12.15	8.482	12.15	11.56	12.15	90-100	12.64	3020	99.2,99.2
110	4.521	8.466	9.356	8.466	4.521	8.466	9.356	8.466	100-110	10.02	3030	99.5,99.5
120	3.280	5.176	6.660	5.176	3.280	5.176	6.660	5.176	110-120	6.090	3036	99.7,99.7
130	2.446	3.334	4.297	3.334	2.446	3.334	4.297	3.334	120-130	3.673	3040	99.9,99.9
140	1.805	2.095	2.861	2.095	1.805	2.095	2.861	2.095	130-140	2.142	3042	99.9,99.9
150	1.182	1.440	1.850	1.440	1.182	1.440	1.850	1.440	140-150	1.138	3043	100,100
160	1.020	1.160	1.324	1.160	1.020	1.160	1.324	1.160	150-160	0.6001	3043	100,100
170	0.9213	0.9381	1.053	0.9381	0.9213	0.9381	1.053	0.9381	160-170	0.3046	3044	100,100
180	1.023	1.045	0.9954	1.045	1.023	1.045	0.9954	1.045	170-180	0.0910	3044	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 1584.6 lm

%lum = 52.1%
%lamp = 52.1%

Conical surface Flux(120deg): 2360.5 lm

%lum = 77.5%
%lamp = 77.5%

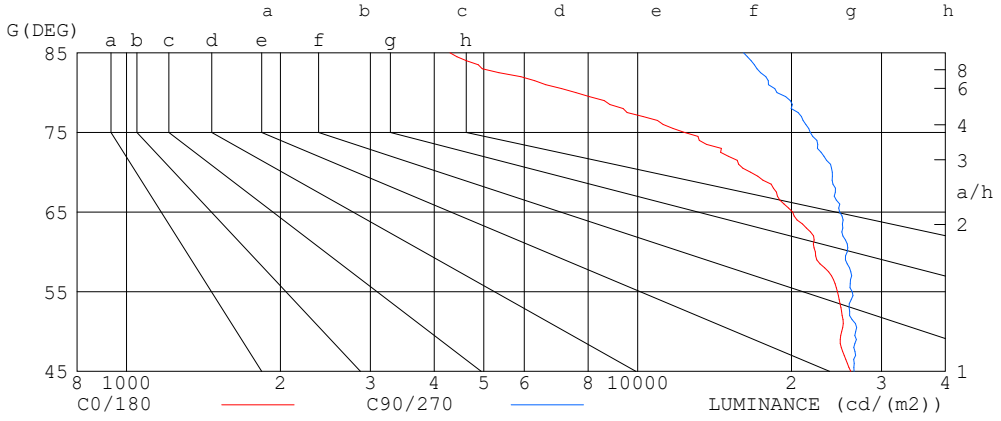
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

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



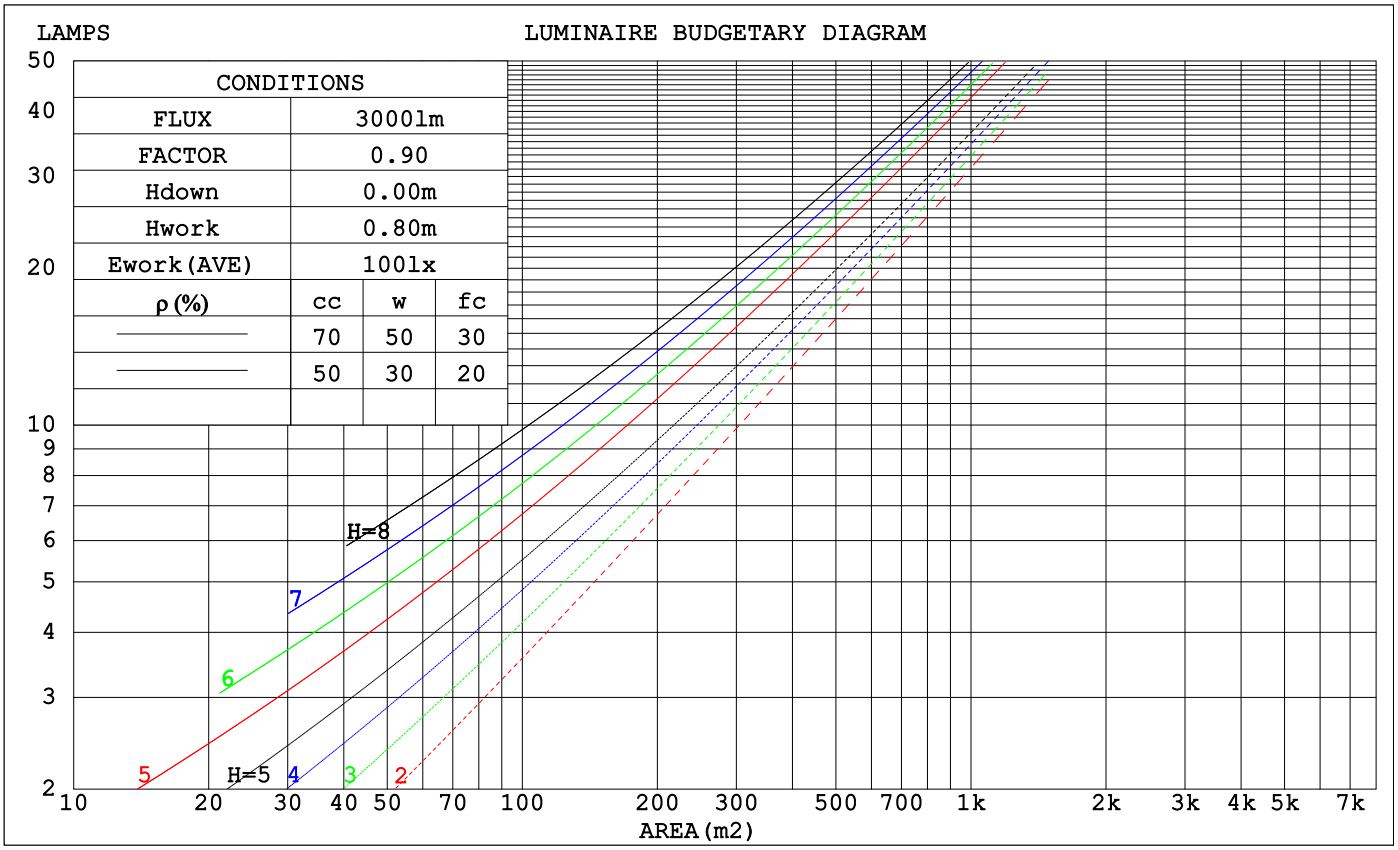
LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4295	16119
80	7571	18733
75	12354	21769
70	16634	24036
65	20104	24843
60	22269	25708
55	24594	26296
50	25075	26709
45	26128	26512

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	1.19	1.19	1.19	1.16	1.16	1.16	1.10	1.10	1.10	1.05	1.05	1.05	1.01	1.01	1.01	.99
1.0	1.04	.99	.95	1.01	.97	.94	.97	.93	.90	.93	.90	.87	.89	.87	.85	.82
2.0	.90	.83	.77	.88	.82	.76	.84	.79	.74	.81	.76	.72	.78	.74	.71	.68
3.0	.79	.71	.64	.77	.69	.63	.74	.67	.62	.71	.65	.61	.68	.64	.60	.57
4.0	.70	.61	.54	.68	.60	.54	.66	.58	.53	.63	.57	.52	.61	.55	.51	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.57	.50	.45	.55	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.40	.51	.44	.39	.49	.43	.39	.37
7.0	.51	.42	.35	.50	.41	.35	.48	.40	.35	.46	.40	.35	.45	.39	.34	.32
8.0	.46	.37	.32	.45	.37	.31	.44	.36	.31	.42	.36	.31	.41	.35	.31	.29
9.0	.42	.34	.28	.42	.34	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26
10.0	.39	.31	.26	.38	.31	.25	.37	.30	.25	.36	.30	.25	.35	.29	.25	.23



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	.311	.177	.056	.304	.173	.055	.290	.166	.053	.277	.160	.051	.265	.154	.050	
2.0	.293	.161	.049	.287	.158	.049	.274	.153	.047	.263	.147	.046	.252	.143	.045	
3.0	.271	.144	.043	.266	.142	.043	.255	.138	.042	.245	.134	.041	.235	.130	.040	
4.0	.251	.130	.038	.245	.128	.038	.236	.125	.037	.227	.122	.037	.218	.119	.036	
5.0	.232	.118	.034	.227	.117	.034	.218	.114	.033	.210	.111	.033	.203	.108	.033	
6.0	.215	.108	.031	.211	.106	.031	.203	.104	.030	.196	.102	.030	.189	.099	.030	
7.0	.200	.099	.028	.196	.098	.028	.189	.096	.028	.183	.094	.027	.177	.092	.027	
8.0	.187	.091	.026	.183	.090	.026	.177	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.175	.085	.024	.172	.084	.024	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.152	.075	.021	.147	.074	.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	.200	.200	.200	.171	.171	.171	.116	.116	.116	.067	.067	.067	.021	.021	.021	
1.0	.190	.165	.144	.162	.142	.124	.111	.098	.085	.064	.057	.050	.020	.018	.016	
2.0	.182	.141	.107	.156	.122	.093	.107	.084	.065	.062	.049	.038	.020	.016	.012	
3.0	.174	.124	.083	.149	.107	.072	.102	.074	.051	.059	.043	.030	.019	.014	.010	
4.0	.167	.110	.068	.143	.095	.059	.098	.067	.041	.057	.039	.024	.018	.013	.008	
5.0	.159	.100	.056	.137	.087	.049	.094	.060	.035	.055	.036	.021	.018	.012	.007	
6.0	.152	.092	.048	.131	.079	.042	.090	.056	.030	.052	.033	.018	.017	.011	.006	
7.0	.145	.085	.043	.125	.074	.037	.086	.052	.026	.050	.030	.016	.016	.010	.005	
8.0	.139	.079	.038	.120	.069	.033	.083	.048	.024	.048	.028	.014	.016	.009	.005	
9.0	.133	.074	.035	.114	.064	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
10.0	.127	.070	.032	.110	.061	.028	.076	.043	.020	.044	.025	.012	.014	.008	.004	

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	23.4	25.0	23.8	25.3	25.7	23.6	25.3	24.0	25.6	26.0
3H	24.9	26.3	25.3	26.7	27.1	25.5	26.9	25.9	27.3	27.7
4H	25.3	26.7	25.7	27.0	27.4	26.2	27.6	26.6	27.9	28.3
6H	25.5	26.8	25.9	27.1	27.6	26.6	27.9	27.1	28.3	28.7
8H	25.5	26.7	25.9	27.1	27.6	26.8	28.0	27.2	28.4	28.9
12H	25.5	26.7	25.9	27.1	27.5	26.9	28.1	27.3	28.5	28.9
4H 2H	24.1	25.5	24.5	25.9	26.3	24.3	25.7	24.8	26.1	26.5
3H	25.9	27.1	26.3	27.5	27.9	26.4	27.6	26.8	28.0	28.4
4H	26.5	27.6	27.0	28.0	28.5	27.2	28.3	27.7	28.7	29.2
6H	26.8	27.8	27.3	28.2	28.7	27.8	28.7	28.3	29.2	29.7
8H	26.9	27.8	27.4	28.2	28.7	28.0	28.8	28.5	29.3	29.8
12H	26.9	27.7	27.4	28.2	28.7	28.1	28.9	28.6	29.4	29.9
8H 4H	26.9	27.8	27.4	28.2	28.7	27.5	28.4	28.0	28.8	29.3
6H	27.4	28.1	27.9	28.6	29.1	28.2	29.0	28.7	29.5	30.0
8H	27.5	28.2	28.1	28.7	29.2	28.5	29.1	29.0	29.7	30.2
12H	27.6	28.2	28.1	28.7	29.3	28.7	29.3	29.2	29.8	30.4
12H 4H	26.9	27.7	27.4	28.2	28.7	27.5	28.3	28.0	28.8	29.3
6H	27.5	28.1	28.0	28.6	29.2	28.3	28.9	28.8	29.4	30.0
8H	27.7	28.3	28.2	28.8	29.3	28.6	29.2	29.1	29.7	30.3
CIE190: 2010										

CIE190: 2010
Area: 0.03773 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:

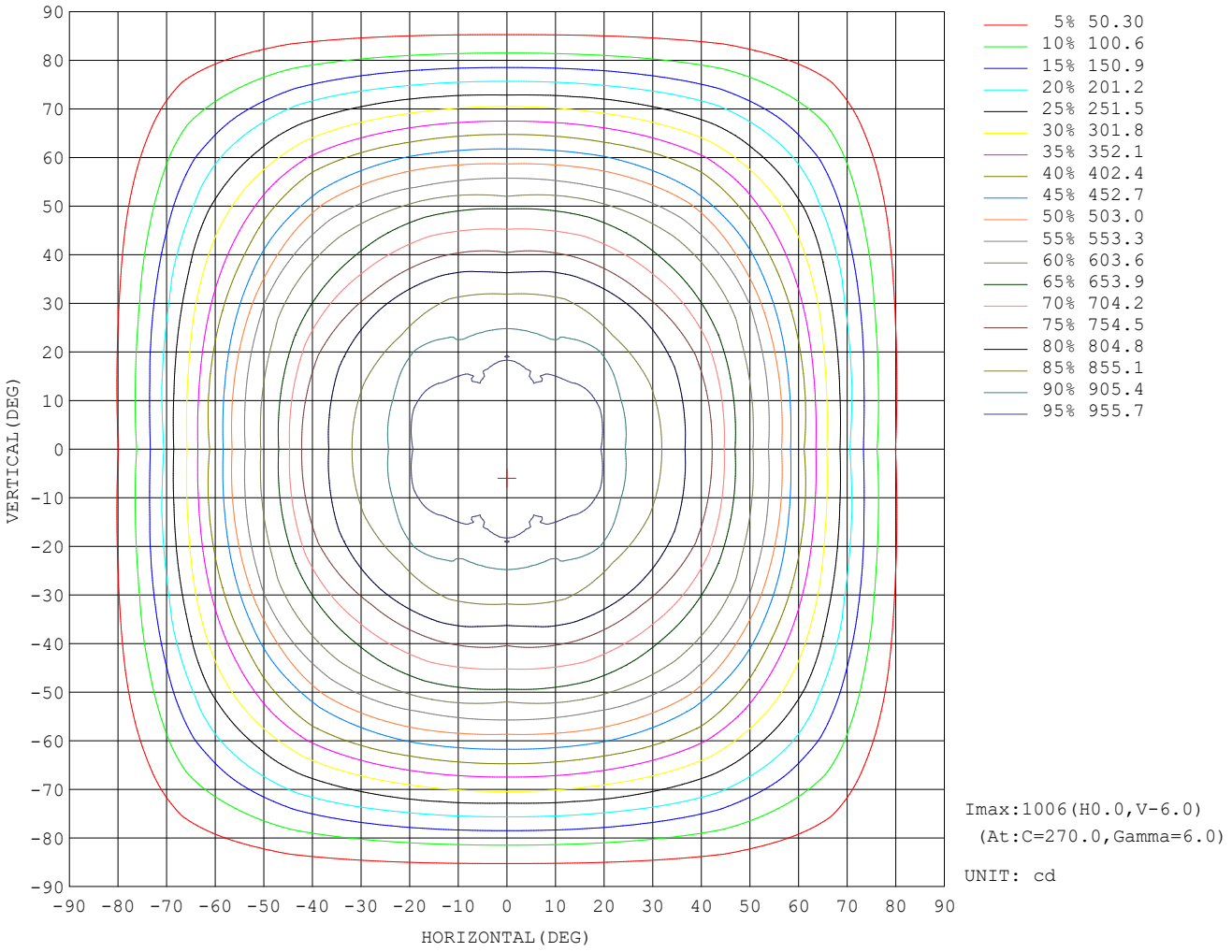
UTILIZATION FACTORS TABLE

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	56	45	38	56	44	38	54	44	37	31
0.80	67	55	47	65	54	47	64	53	47	40
1.00	75	64	56	74	63	56	71	65	55	48
1.25	82	72	64	81	71	64	78	69	63	56
1.50	87	77	70	86	76	70	82	74	68	61
2.00	94	86	79	92	84	78	89	82	77	69
2.50	98	90	84	96	89	83	92	86	81	73
3.00	102	95	89	99	93	88	95	90	86	77
4.00	106	100	95	103	98	94	99	95	91	82
5.00	108	103	99	106	101	97	101	97	94	85
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:

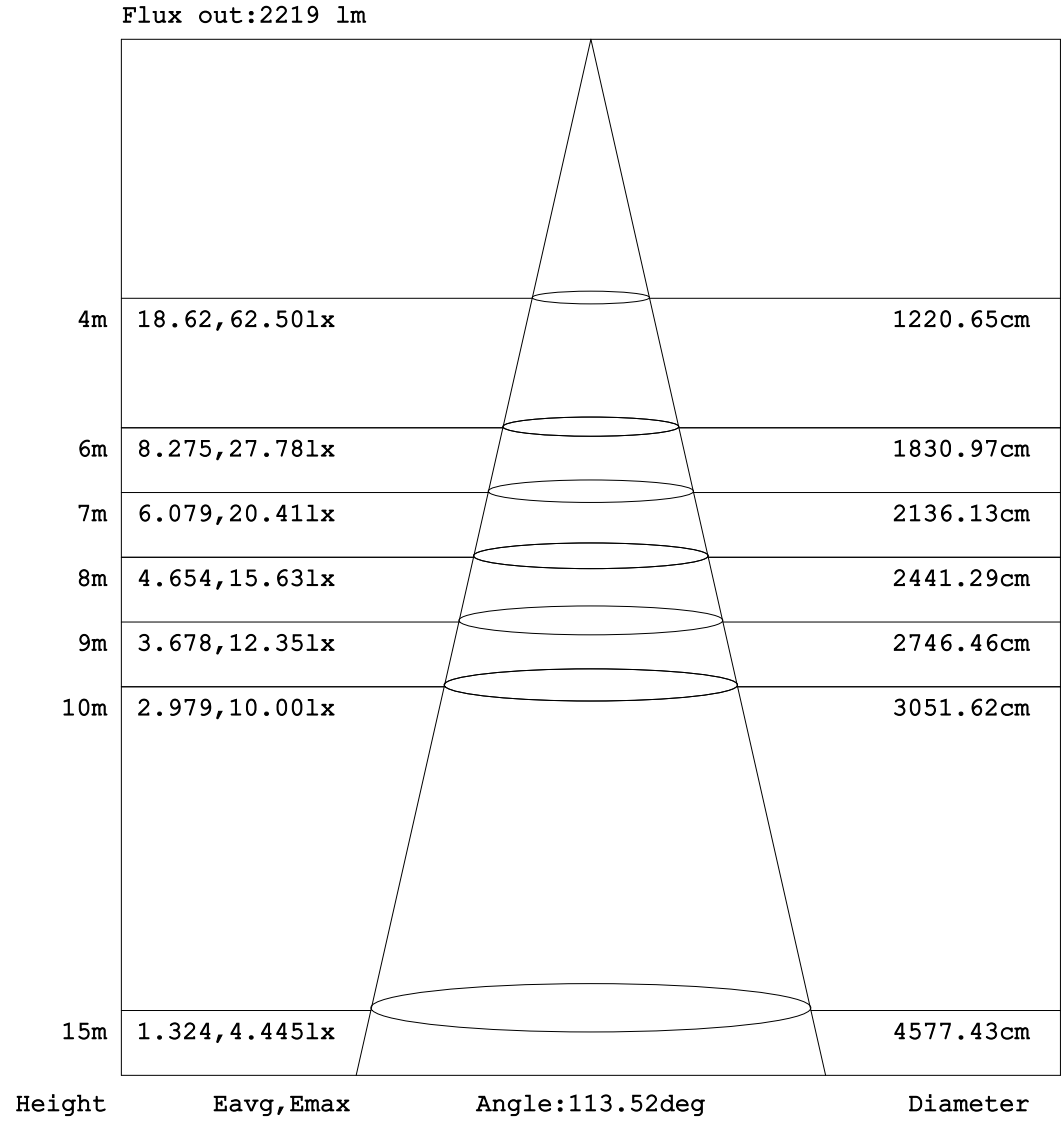
ISOCANDELA DIAGRAM



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

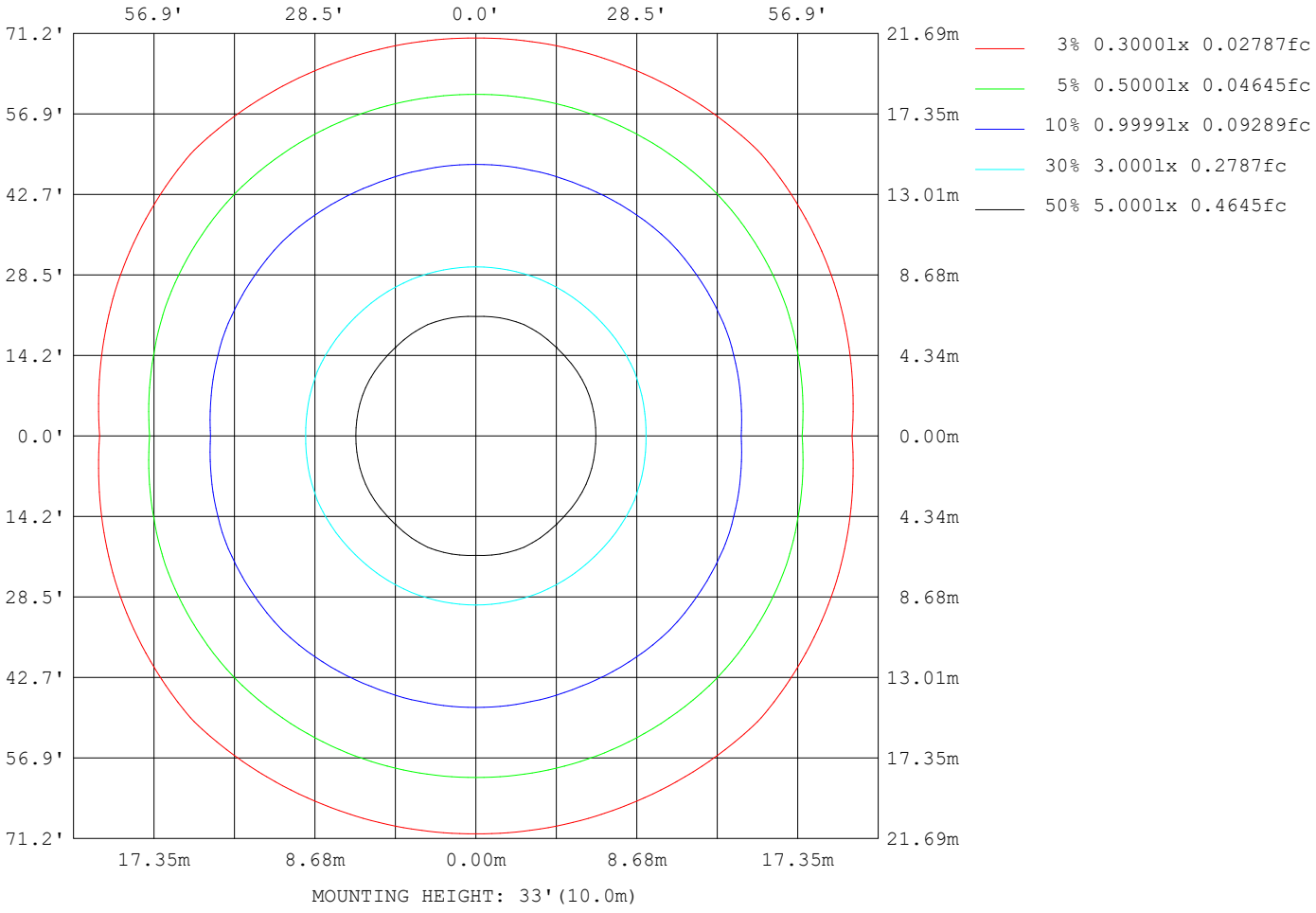


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

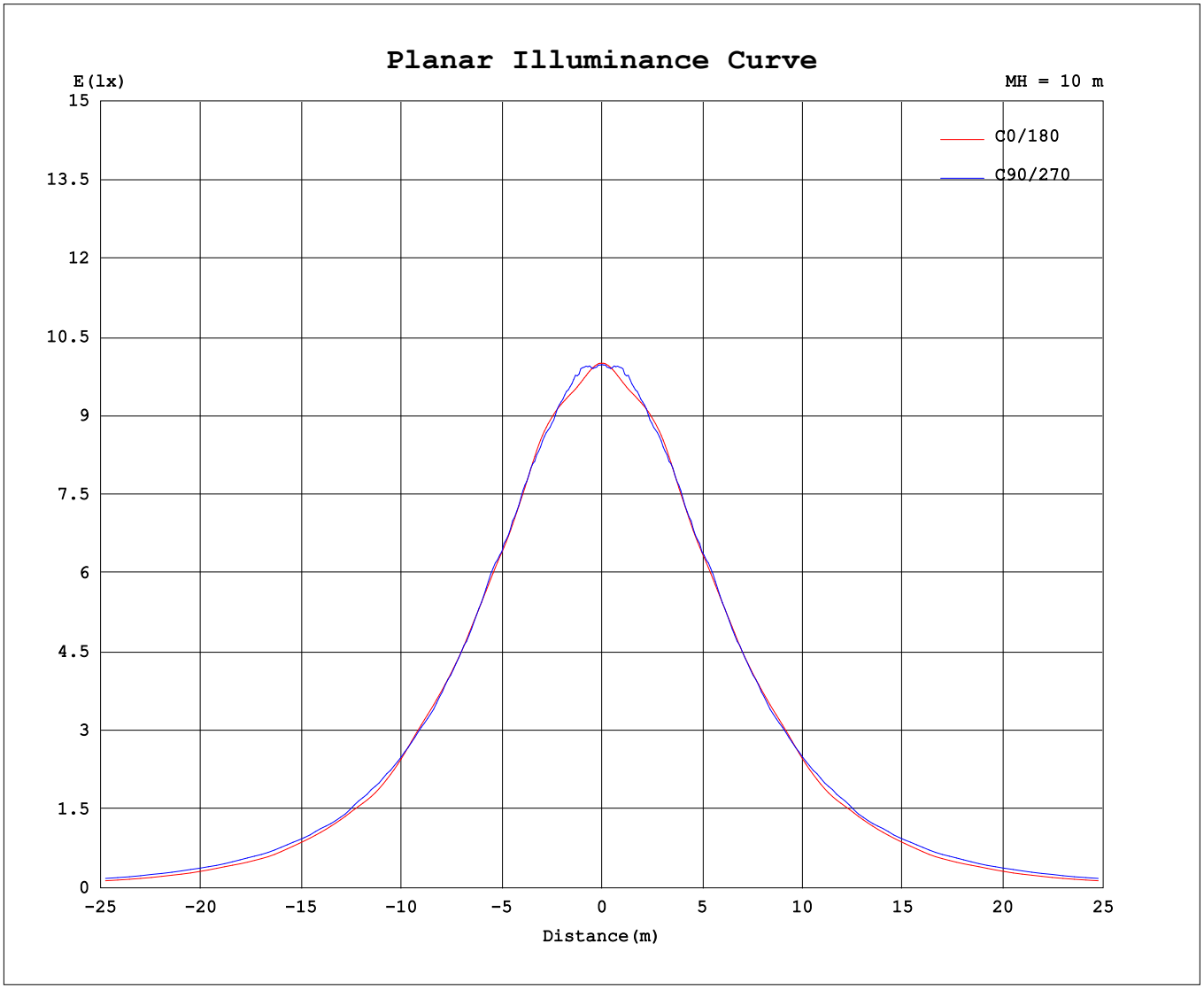
ISOLUX DIAGRAM



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: