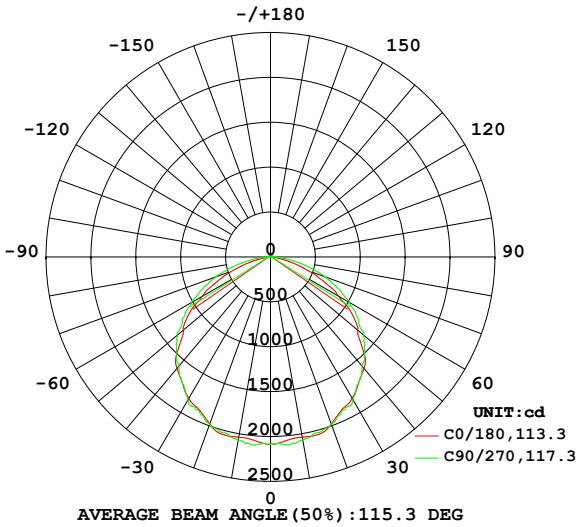
LUMINAIRE PHOTOMETRIC TEST REPORT

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:6368.41x1 lm		
NAME: LHB13-040-4080-L00C184	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

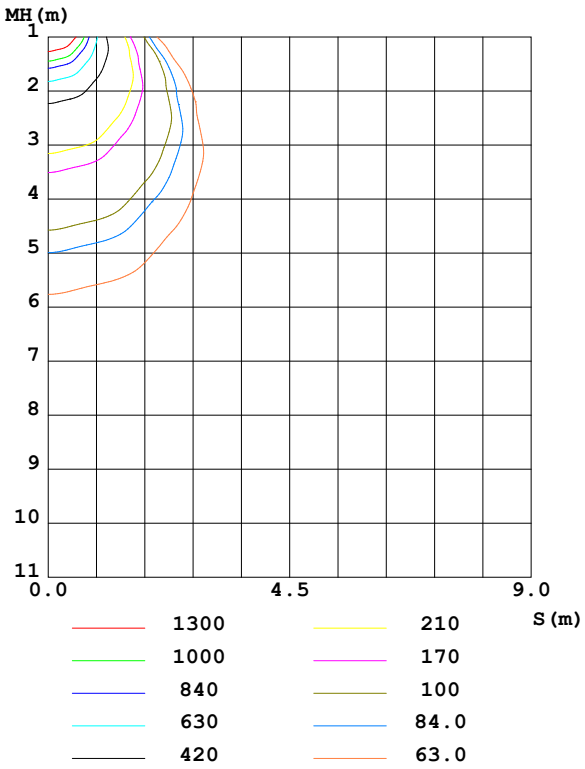
DATA OF LAMP		PHOTOMETRIC DATA Eff: 159.21 lm/W			
MODEL	/	Imax(cd)	2105	S/MH(C0/180)	1.30
NOMINAL POWER(W)	/	LOR(%)	100.0	S/MH(C90/270)	1.29
RATED VOLTAGE(V)	/	TOTAL FLUX(lm)	6368.4	η UP,DN(C0-180)	0.6,49.4
NOMINAL FLUX(lm)	6368.41	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.6,49.4
LAMPS INSIDE	1	η up(%)	1.2	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	2038	2050	2073	2050	2038	2050	2073	2050	0- 10	196.8	196.8	3.09,3.09
20	1979	1993	1984	1993	1979	1993	1984	1993	10- 20	574.9	771.7	12.1,12.1
30	1819	1826	1838	1826	1819	1826	1838	1826	20- 30	881.7	1653	26,26
40	1620	1619	1585	1619	1620	1619	1585	1619	30- 40	1084	2738	43,43
50	1269	1332	1355	1332	1269	1332	1355	1332	40- 50	1147	3885	61,61
60	876.8	1040	1015	1040	876.8	1040	1015	1040	50- 60	1054	4939	77.5,77.5
70	448.0	647.6	649.0	647.6	448.0	647.6	649.0	647.6	60- 70	793.1	5732	90,90
80	103.5	267.0	256.8	267.0	103.5	267.0	256.8	267.0	70- 80	441.0	6173	96.9,96.9
90	3.925	34.44	36.43	34.44	3.925	34.44	36.43	34.44	80- 90	118.8	6292	98.8,98.8
100	17.75	25.41	24.20	25.41	17.75	25.41	24.20	25.41	90-100	26.46	6318	99.2,99.2
110	9.459	17.71	19.57	17.71	9.459	17.71	19.57	17.71	100-110	20.97	6339	99.5,99.5
120	6.863	10.83	13.93	10.83	6.863	10.83	13.93	10.83	110-120	12.74	6352	99.7,99.7
130	5.117	6.975	8.991	6.975	5.117	6.975	8.991	6.975	120-130	7.685	6359	99.9,99.9
140	3.777	4.382	5.986	4.382	3.777	4.382	5.986	4.382	130-140	4.481	6364	99.9,99.9
150	2.472	3.014	3.870	3.014	2.472	3.014	3.870	3.014	140-150	2.381	6366	100,100
160	2.134	2.426	2.771	2.426	2.134	2.426	2.771	2.426	150-160	1.256	6368	100,100
170	1.928	1.963	2.204	1.963	1.928	1.963	2.204	1.963	160-170	0.6372	6368	100,100
180	2.141	2.185	2.083	2.185	2.141	2.185	2.083	2.185	170-180	0.1903	6368	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 3315.3 lm

%lum = 52.1%
%lamp = 52.1%

Conical surface Flux(120deg): 4938.6 lm

%lum = 77.5%
%lamp = 77.5%

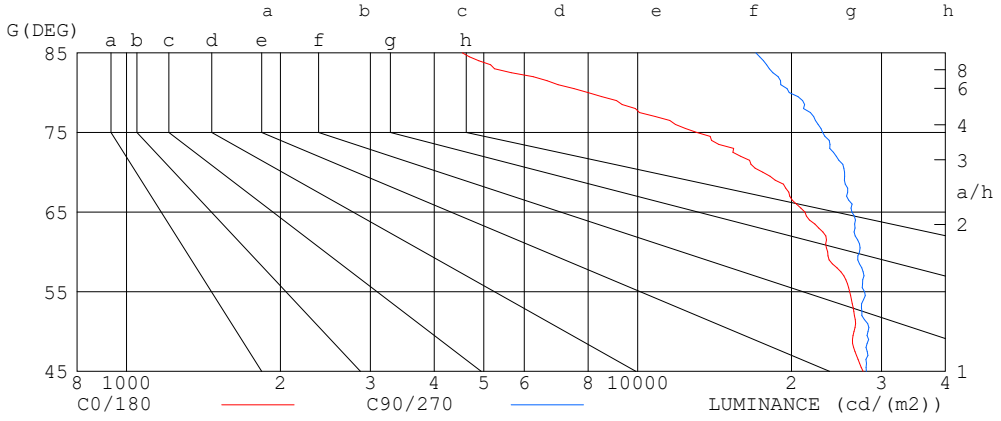
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3℃
Operators:LYJ
Test Date:2022-05-03

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	4539	17037
80	8002	19799
75	13057	23008
70	17581	25404
65	21249	26257
60	23536	27171
55	25994	27793
50	26502	28229
45	27614	28020

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

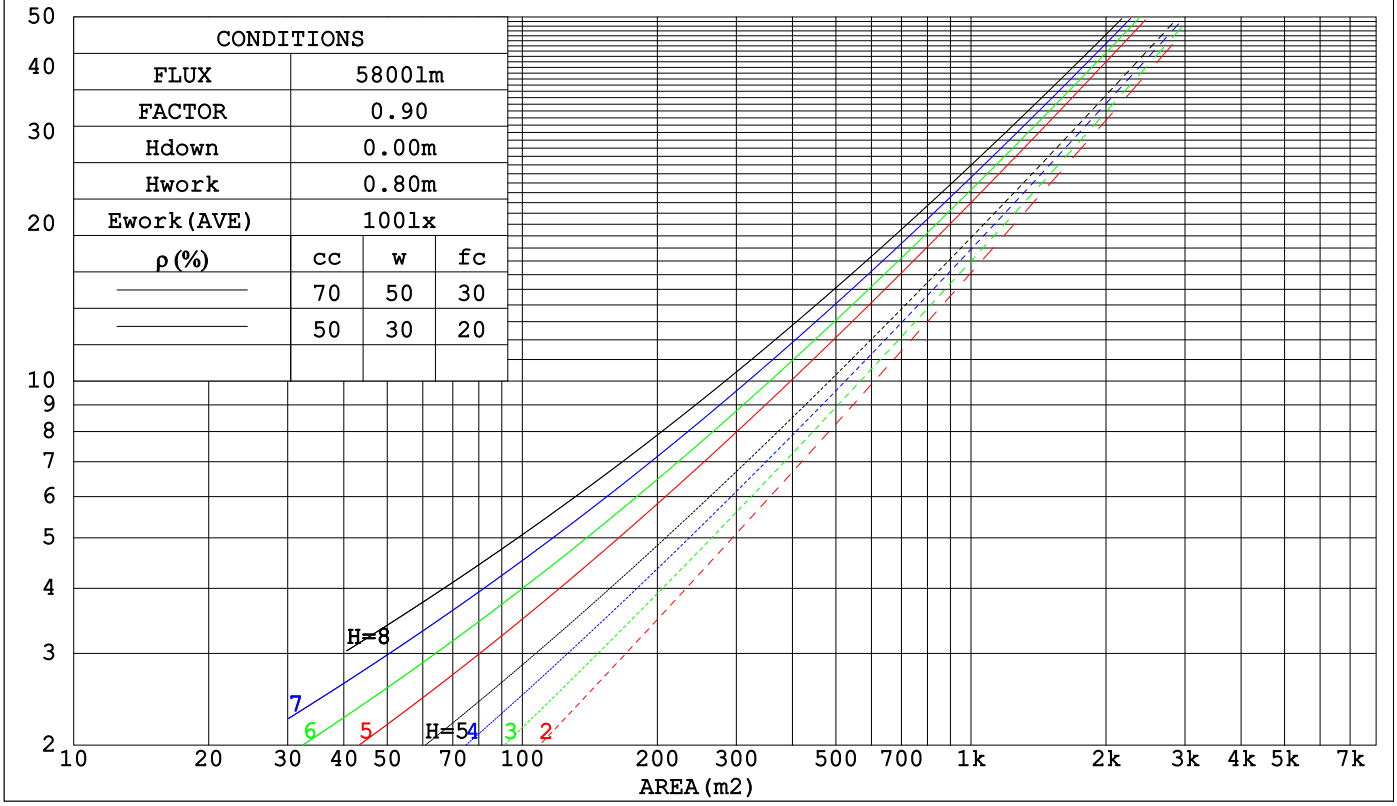
γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:26.000m [K=0.0446]
Remarks:

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

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	.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	23.6	25.2	23.9	25.5	25.9	23.8	25.5	24.2	25.8	26.1
3H	25.1	26.5	25.5	26.9	27.3	25.7	27.1	26.1	27.5	27.9
4H	25.5	26.9	25.9	27.2	27.6	26.4	27.7	26.8	28.1	28.5
6H	25.7	26.9	26.1	27.3	27.8	26.8	28.1	27.3	28.5	28.9
8H	25.7	26.9	26.1	27.3	27.8	27.0	28.2	27.4	28.6	29.0
12H	25.7	26.9	26.1	27.3	27.7	27.1	28.3	27.5	28.7	29.1
4H 2H	24.3	25.7	24.7	26.1	26.5	24.5	25.9	24.9	26.3	26.7
3H	26.1	27.3	26.5	27.7	28.1	26.6	27.8	27.0	28.2	28.6
4H	26.7	27.8	27.1	28.2	28.7	27.4	28.4	27.8	28.9	29.3
6H	27.0	28.0	27.5	28.4	28.9	28.0	28.9	28.5	29.4	29.9
8H	27.1	28.0	27.6	28.4	28.9	28.2	29.0	28.7	29.5	30.0
12H	27.1	27.9	27.6	28.4	28.9	28.3	29.1	28.8	29.6	30.1
8H 4H	27.1	28.0	27.6	28.4	28.9	27.7	28.6	28.2	29.0	29.5
6H	27.6	28.3	28.1	28.8	29.3	28.4	29.1	28.9	29.7	30.2
8H	27.7	28.4	28.3	28.9	29.4	28.7	29.3	29.2	29.9	30.4
12H	27.8	28.4	28.3	28.9	29.5	28.9	29.5	29.4	30.0	30.6
12H 4H	27.1	27.9	27.6	28.4	28.9	27.7	28.5	28.2	29.0	29.5
6H	27.7	28.3	28.2	28.8	29.4	28.5	29.1	29.0	29.6	30.2
8H	27.9	28.4	28.4	29.0	29.5	28.8	29.4	29.3	29.9	30.5
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:

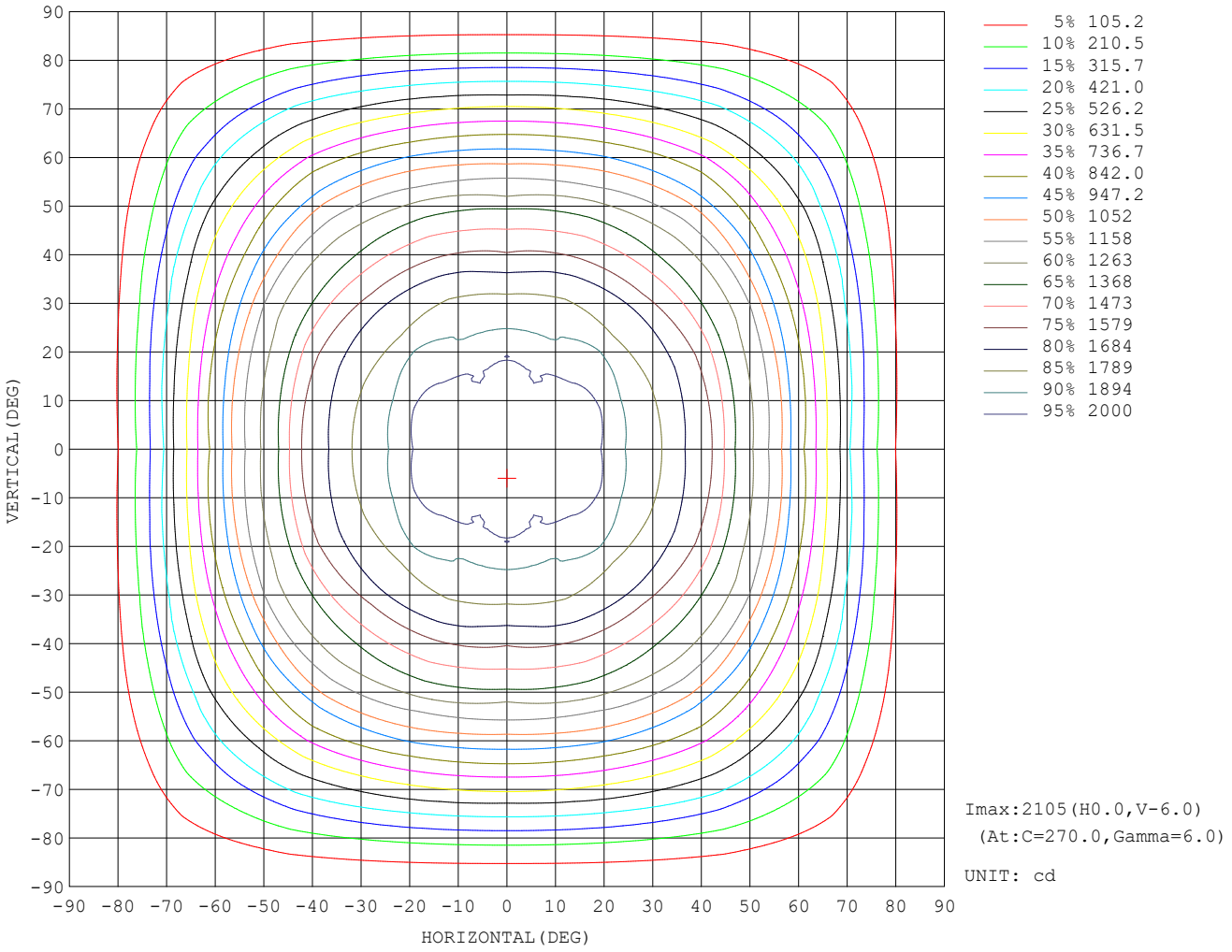
UTILIZATION FACTORS TABLE

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	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:

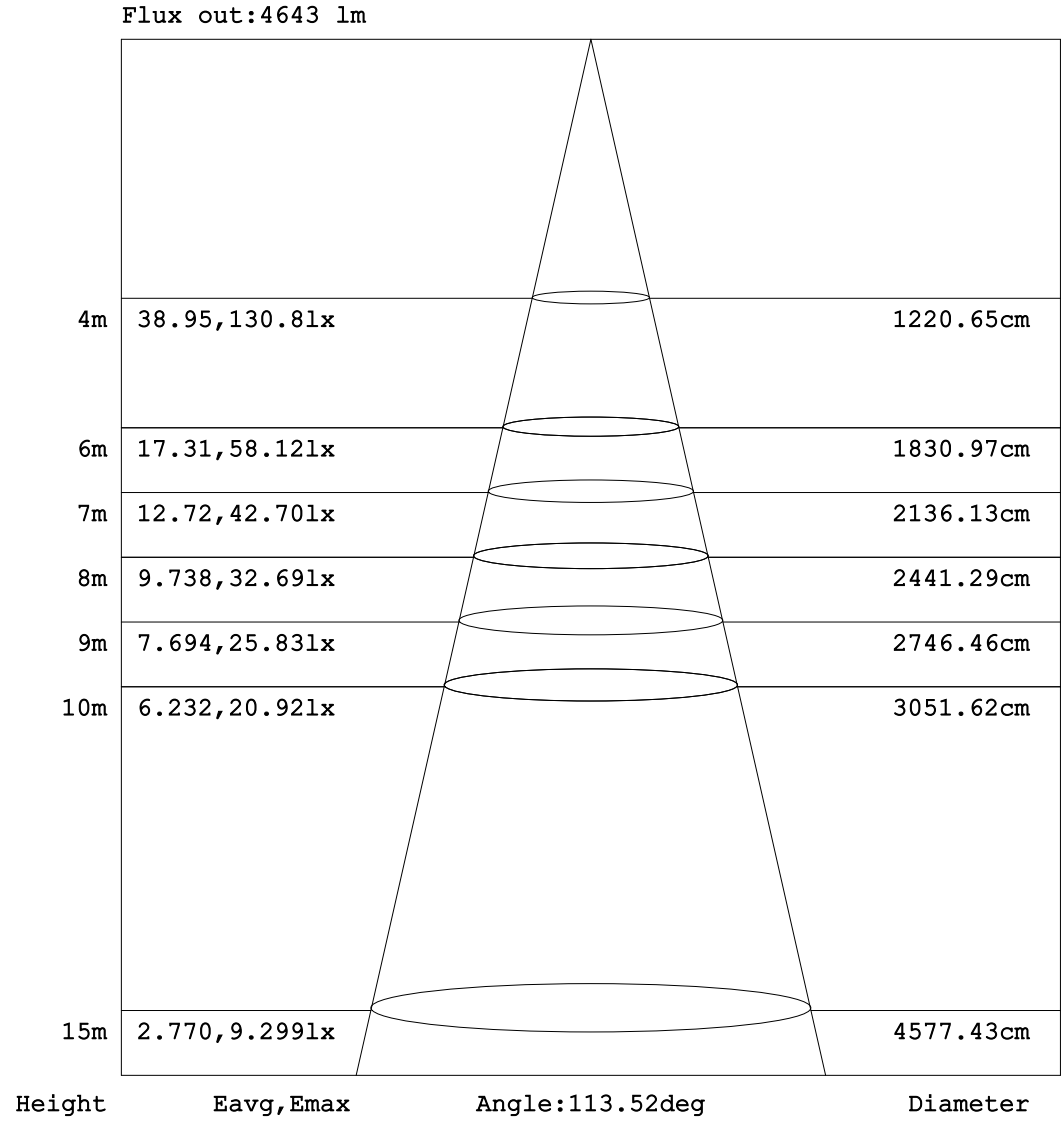
ISOCANDELA DIAGRAM



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

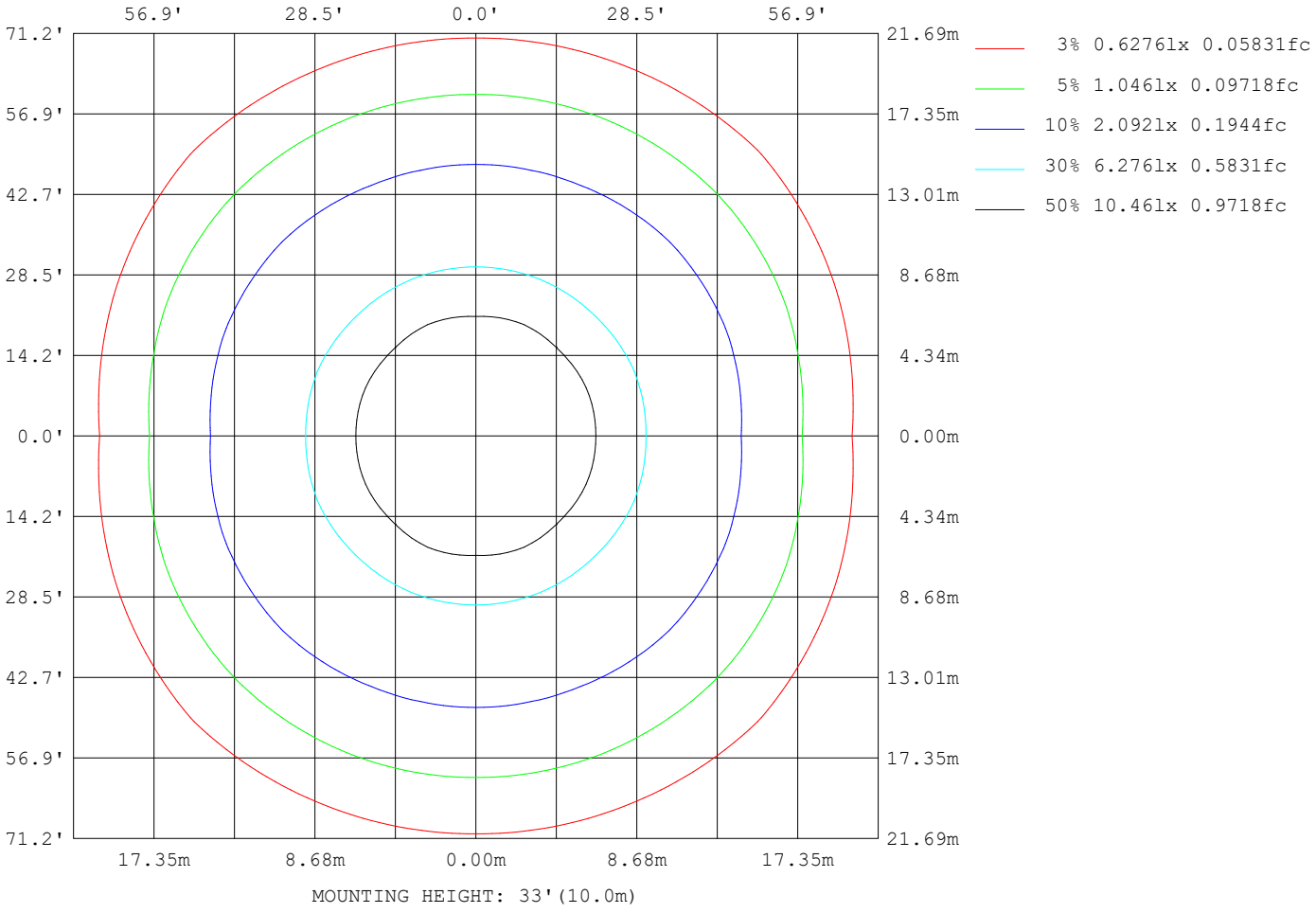


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:

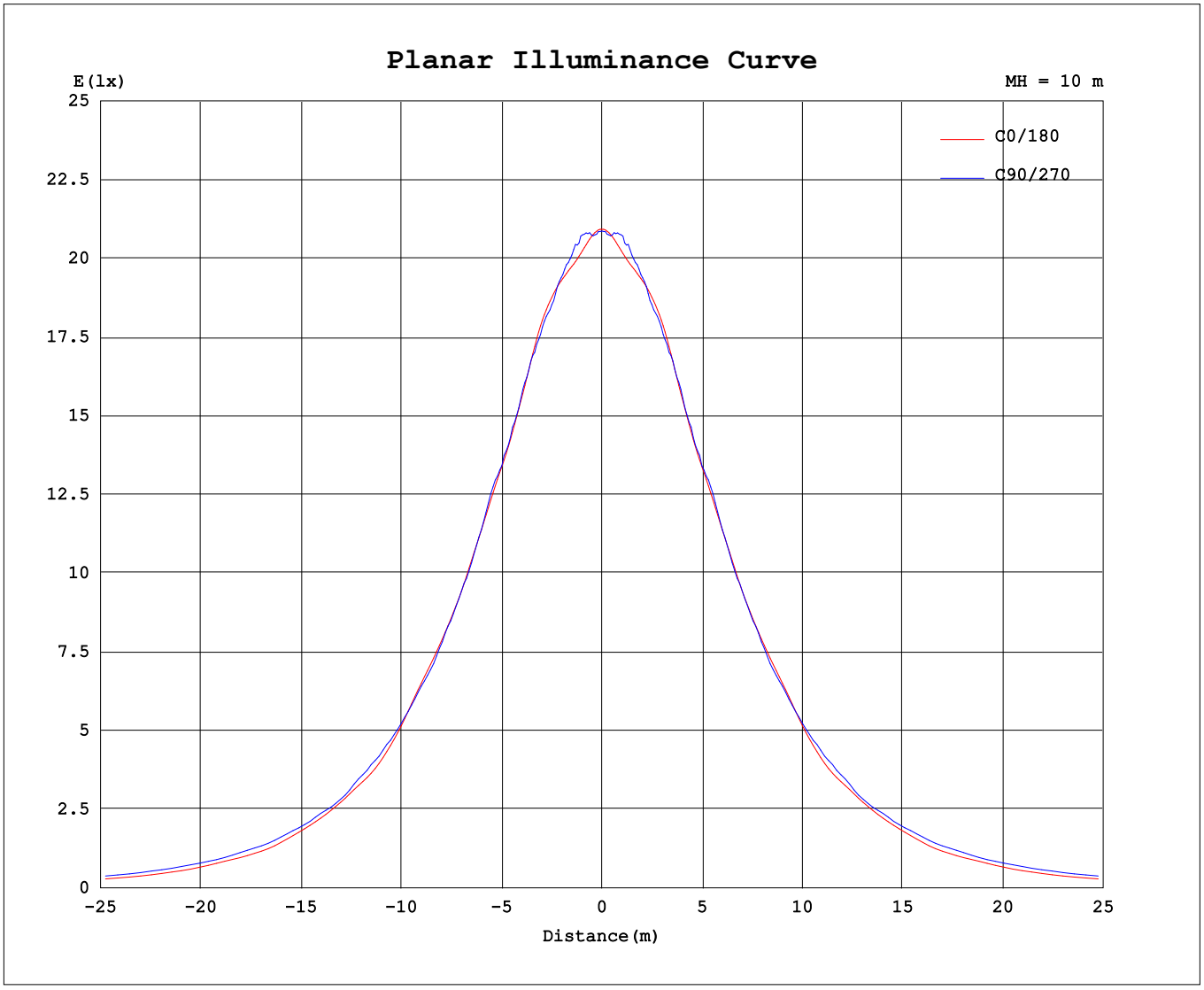
ISOLUX DIAGRAM



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: