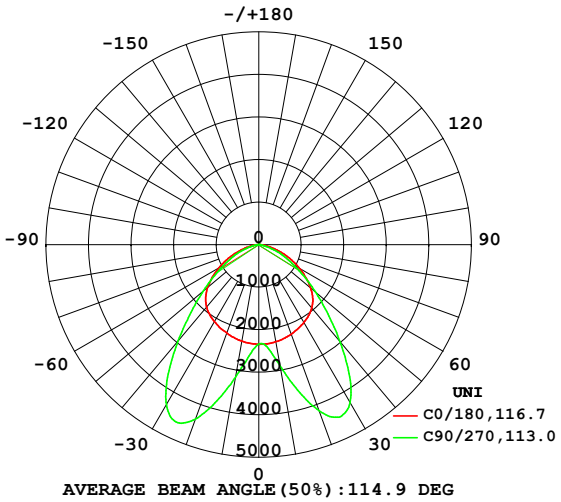
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.9V I:0.3094A P:69.77W PF:0.9809 Freq:50.01Hz UTHDi:0% ITHDi:0% Lamp Flux:9303.38x1 lm		
NAME: LHB19-070-5080-L00114	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

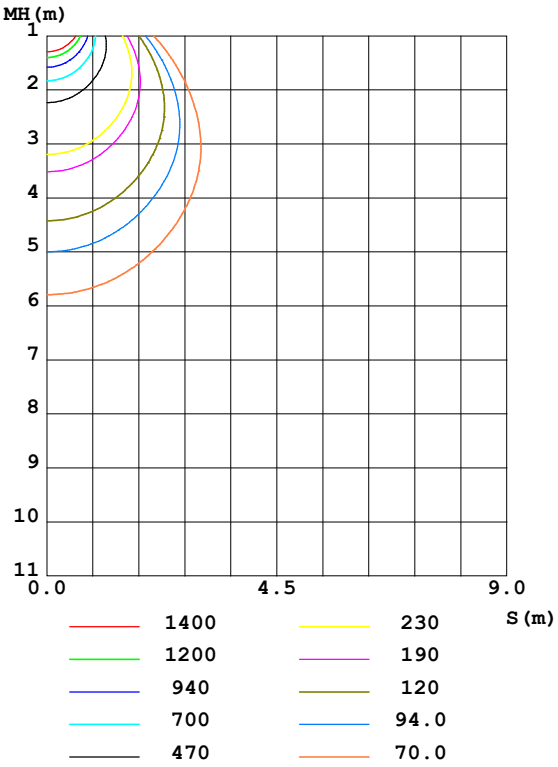
DATA OF LAMP		PHOTOMETRIC DATA Eff: 133.35 lm/W			
MODEL	SMD283	Imax(cd)	4601	S/MH(C0/180)	1.33
NOMINAL POWER(W)	70	LOR(%)	100.0	S/MH(C90/270)	1.57
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	9303.4	η UP,DN(C0-180)	0.0,49.3
NOMINAL FLUX(lm)	9303.38	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):114.9 DEG

C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	2318	2588	2888	2574	2304	2794	3155	2824	0- 10	240.6	240.6	2.59,2.59
20	2241	3343	4157	3323	2211	3554	4365	3598	10- 20	866.3	1107	11.9,11.9
30	2119	3856	4296	3854	2091	3998	4345	4040	20- 30	1644	2751	29.6,29.6
40	1941	3377	2966	3363	1913	3436	2949	3454	30- 40	2080	4832	51.9,51.9
50	1599	2277	1750	2241	1573	2272	1710	2296	40- 50	1901	6732	72.4,72.4
60	1100	1265	938.1	1233	1076	1239	928.0	1264	50- 60	1383	8116	87.2,87.2
70	596.1	568.9	425.2	549.1	573.5	552.2	426.3	570.7	60- 70	815.7	8931	96,96
80	183.7	135.2	65.39	121.7	164.6	124.2	68.12	136.9	70- 80	327.0	9258	99.5,99.5
90	5.176	3.512	0.2999	2.897	0.5692	2.801	0.3221	3.748	80- 90	45.05	9303	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): 5834 lm

%lum = 62.7%
%lamp = 62.7%

Conical surface Flux(120deg): 8115.6 lm

%lum = 87.2%
%lamp = 87.2%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

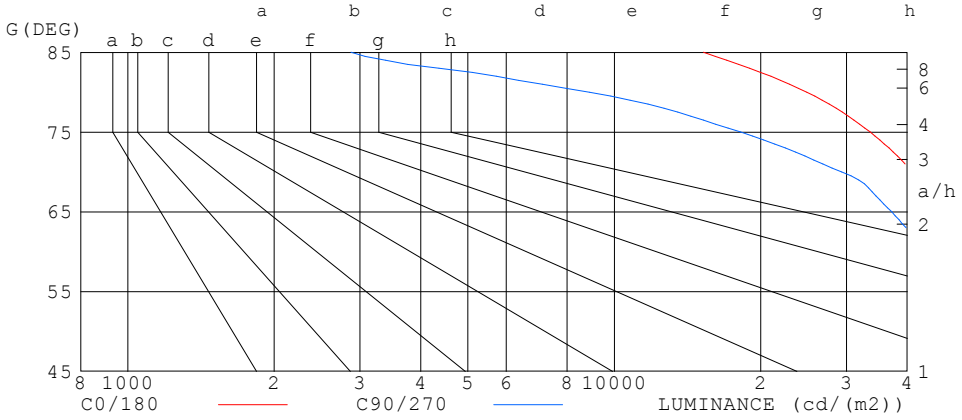
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

Assessor:

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	15240	2876
80	24871	8887
75	33556	18165
70	40967	29336
65	46921	37154
60	51739	44278
55	55626	53645
50	58482	64242
45	59783	76676

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

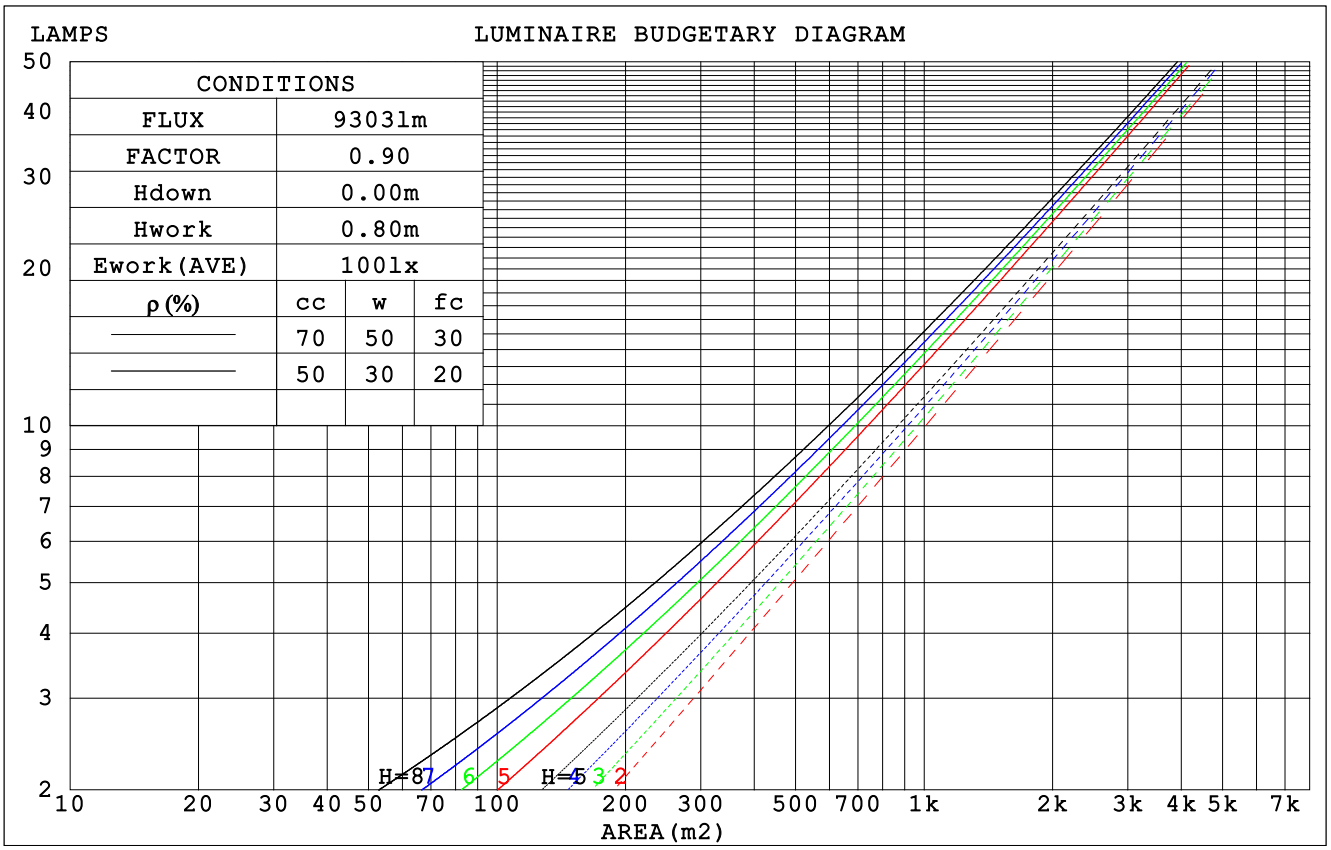
Checker: LI

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:

Assessor:

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	.00
1.0	1.06	1.02	.99	1.04	1.00	.97	.00	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.94	.87	.82	.92	.86	.81	.88	.84	.79	.85	.81	.78	.82	.79	.76	.74
3.0	.83	.75	.69	.81	.74	.69	.78	.73	.68	.76	.71	.66	.73	.69	.65	.63
4.0	.74	.66	.59	.73	.65	.59	.70	.63	.58	.68	.62	.57	.66	.61	.57	.55
5.0	.66	.58	.51	.65	.57	.51	.63	.56	.51	.61	.55	.50	.59	.54	.49	.47
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.44	.55	.49	.44	.54	.48	.44	.42
7.0	.54	.46	.40	.53	.45	.39	.52	.44	.39	.50	.44	.39	.49	.43	.39	.37
8.0	.49	.41	.35	.49	.41	.35	.47	.40	.35	.46	.39	.35	.45	.39	.35	.33
9.0	.45	.37	.32	.44	.37	.31	.43	.36	.31	.42	.36	.31	.41	.35	.31	.29
10.0	.41	.34	.28	.41	.33	.28	.40	.33	.28	.39	.33	.28	.38	.32	.28	.26



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

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	.269	.153	.048	.262	.149	.047	.249	.143	.046	.237	.137	.044	.226	.131	.042	
2.0	.261	.143	.044	.255	.141	.043	.244	.136	.042	.233	.131	.041	.223	.126	.040	
3.0	.247	.131	.039	.242	.129	.039	.232	.126	.038	.222	.122	.037	.214	.118	.037	
4.0	.232	.120	.035	.227	.119	.035	.218	.116	.035	.210	.113	.034	.202	.110	.033	
5.0	.217	.111	.032	.213	.109	.032	.205	.107	.031	.198	.104	.031	.191	.102	.031	
6.0	.203	.102	.029	.200	.101	.029	.193	.099	.029	.186	.097	.028	.180	.095	.028	
7.0	.191	.094	.027	.188	.093	.027	.181	.092	.026	.175	.090	.026	.170	.088	.026	
8.0	.180	.088	.025	.177	.087	.025	.171	.085	.024	.166	.084	.024	.161	.082	.024	
9.0	.169	.082	.023	.167	.081	.023	.162	.080	.023	.157	.079	.022	.152	.077	.022	
10.0	.160	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.144	.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	.177	.156	.138	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.168	.132	.102	.144	.114	.088	.099	.079	.061	.057	.046	.036	.018	.015	.012	
3.0	.160	.114	.078	.137	.098	.067	.094	.068	.047	.054	.040	.028	.017	.013	.009	
4.0	.153	.101	.061	.131	.087	.053	.090	.061	.037	.052	.035	.022	.017	.012	.007	
5.0	.146	.090	.049	.125	.078	.043	.086	.054	.030	.050	.032	.018	.016	.010	.006	
6.0	.139	.082	.041	.119	.071	.035	.082	.049	.025	.048	.029	.015	.015	.010	.005	
7.0	.132	.075	.034	.114	.065	.030	.079	.045	.021	.046	.027	.013	.015	.009	.004	
8.0	.126	.069	.029	.109	.060	.026	.075	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.010	.014	.008	.003	
10.0	.115	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

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	26.4	27.9	26.7	28.2	28.5	24.9	26.4	25.2	26.7	27.0
	3H	27.5	28.9	27.9	29.2	29.6	25.9	27.2	26.2	27.6	27.9
	4H	27.9	29.2	28.3	29.5	29.9	26.0	27.3	26.4	27.6	28.0
	6H	28.1	29.3	28.5	29.6	30.0	26.0	27.2	26.4	27.6	28.0
	8H	28.1	29.2	28.5	29.6	30.0	26.0	27.1	26.4	27.5	27.9
	12H	28.1	29.2	28.5	29.6	30.0	26.0	27.1	26.4	27.4	27.9
4H	2H	26.8	28.1	27.2	28.4	28.8	25.5	26.8	25.9	27.2	27.5
	3H	28.2	29.2	28.6	29.6	30.0	26.6	27.7	27.1	28.1	28.5
	4H	28.6	29.6	29.0	30.0	30.4	26.9	27.8	27.3	28.2	28.7
	6H	28.9	29.7	29.3	30.1	30.6	26.9	27.7	27.4	28.2	28.6
	8H	28.9	29.7	29.4	30.1	30.6	26.9	27.6	27.3	28.1	28.5
	12H	28.9	29.6	29.4	30.1	30.6	26.8	27.5	27.3	28.0	28.5
8H	4H	28.7	29.5	29.1	29.9	30.4	27.0	27.8	27.5	28.2	28.7
	6H	29.0	29.6	29.5	30.1	30.6	27.1	27.7	27.6	28.2	28.7
	8H	29.1	29.6	29.6	30.1	30.6	27.1	27.6	27.6	28.1	28.6
	12H	29.1	29.6	29.6	30.1	30.7	27.0	27.5	27.5	28.0	28.6
12H	4H	28.7	29.3	29.1	29.8	30.3	27.0	27.7	27.5	28.2	28.7
	6H	29.0	29.5	29.5	30.0	30.5	27.1	27.7	27.6	28.1	28.7
	8H	29.1	29.6	29.6	30.1	30.6	27.1	27.6	27.6	28.1	28.6
CIE190: 2010											

CIE190: 2010
Area: 0.04256 m2

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

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	61	50	44	61	50	44	60	50	44	38
0.80	72	61	54	71	61	54	69	60	54	47
1.00	80	70	64	79	70	63	77	71	63	56
1.25	87	78	72	86	77	71	83	76	70	64
1.50	92	83	77	91	83	77	88	81	76	69
2.00	98	91	85	97	90	85	93	88	83	76
2.50	102	95	90	100	94	89	96	91	87	79
3.00	105	99	94	103	97	93	99	95	91	83
4.00	108	103	99	106	102	98	102	98	95	87
5.00	110	106	103	108	104	101	104	101	98	89
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

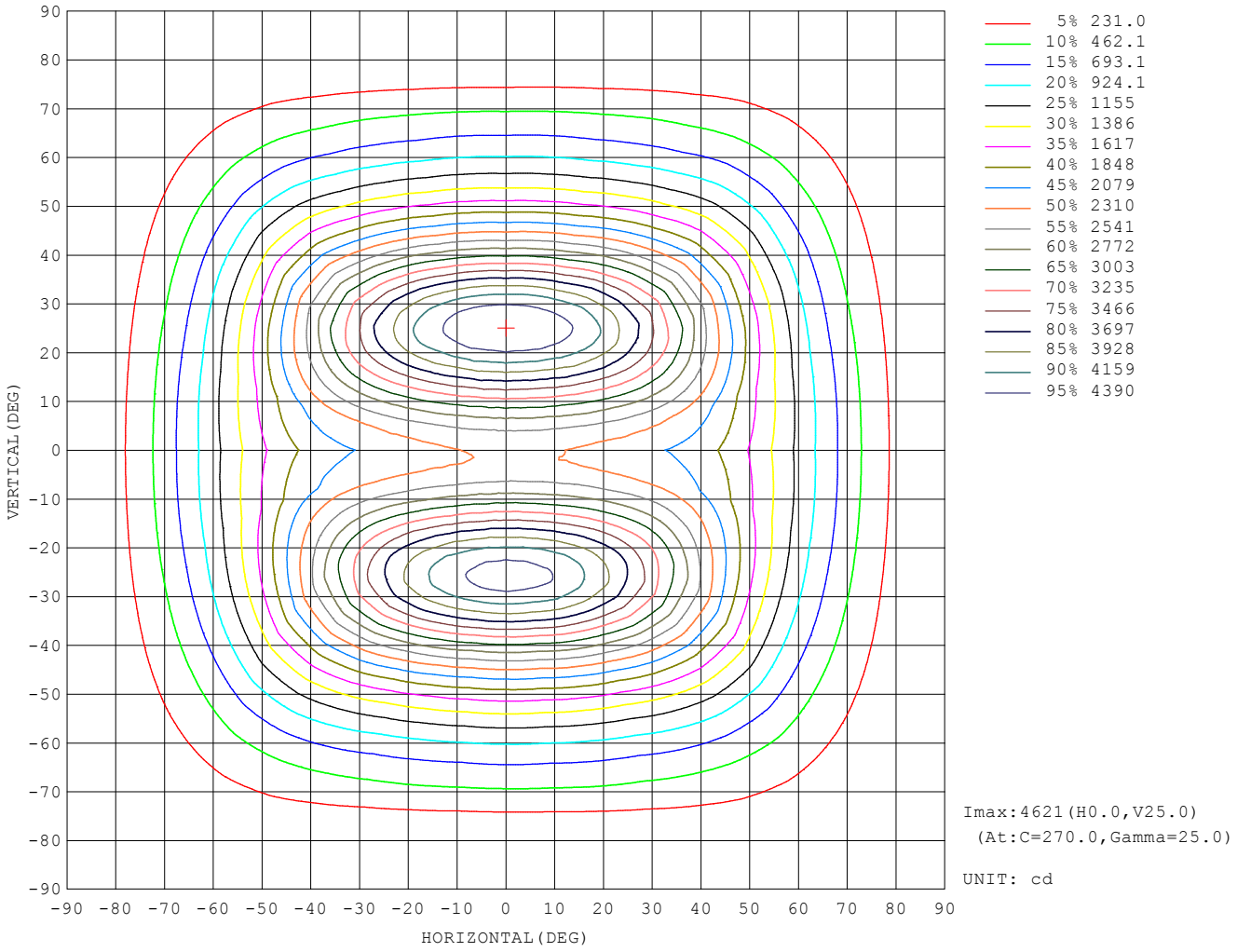
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

ISOCANDELA DIAGRAM



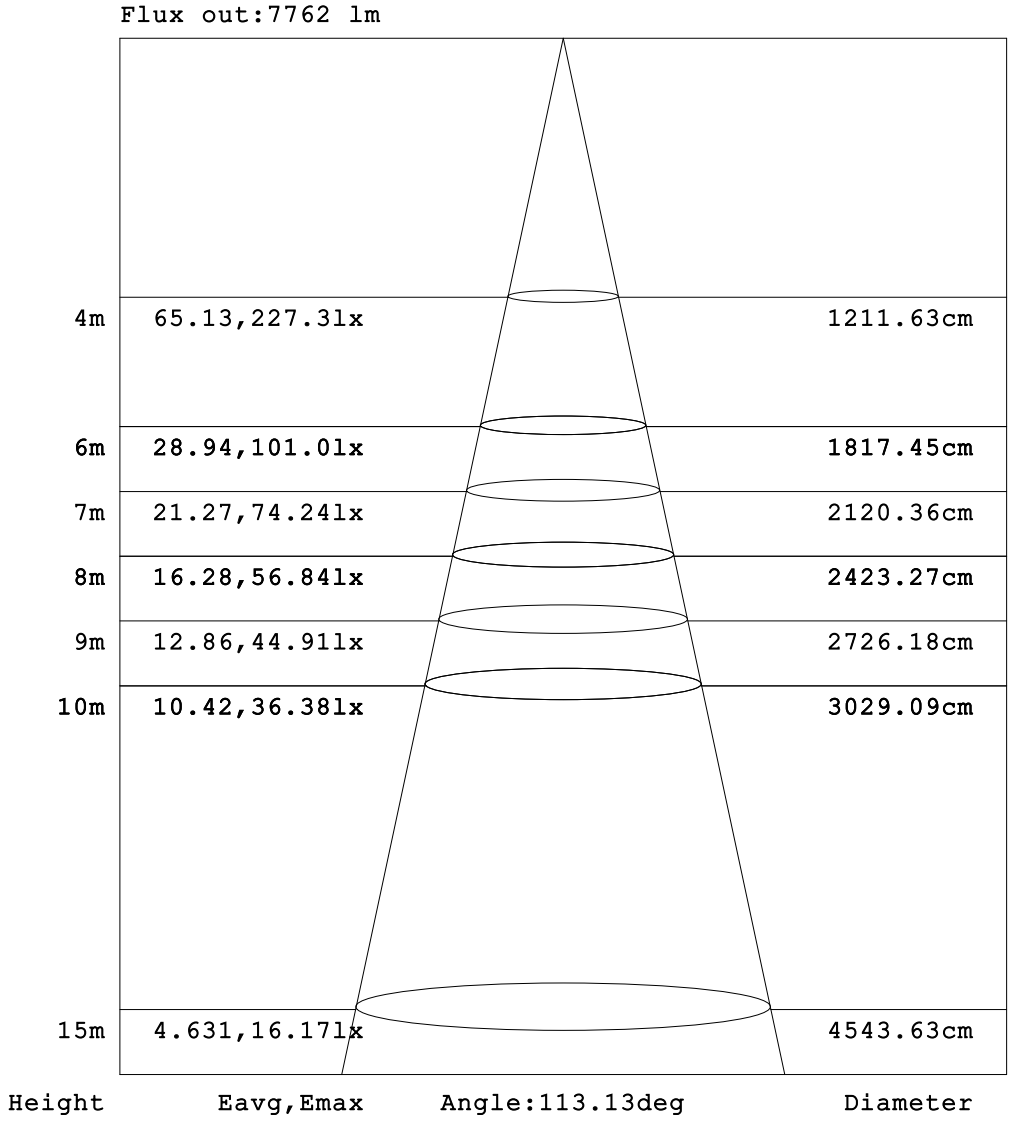
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

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:

Checker: LI

Assessor:

AAI Figure



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

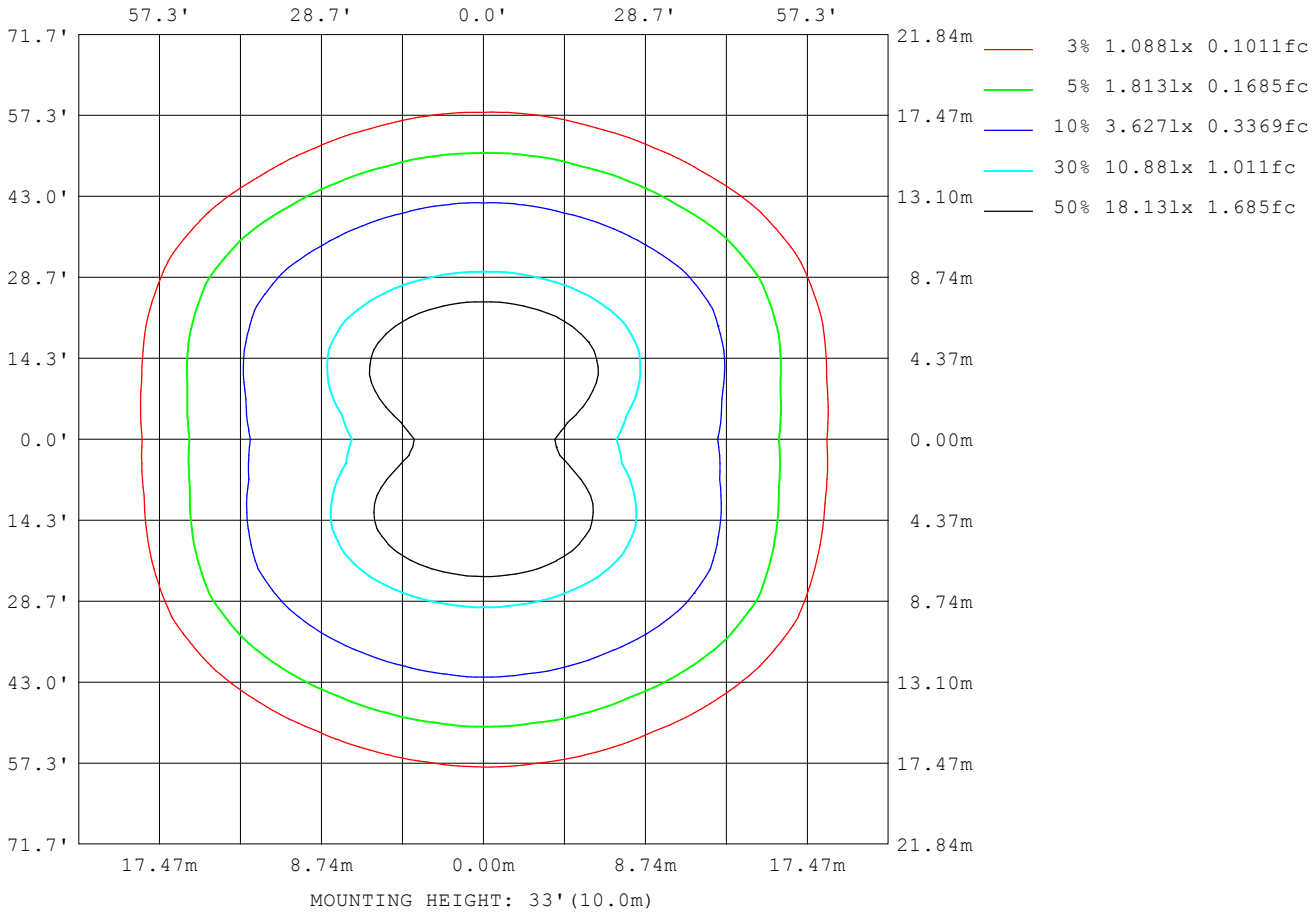
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

ISOLUX DIAGRAM



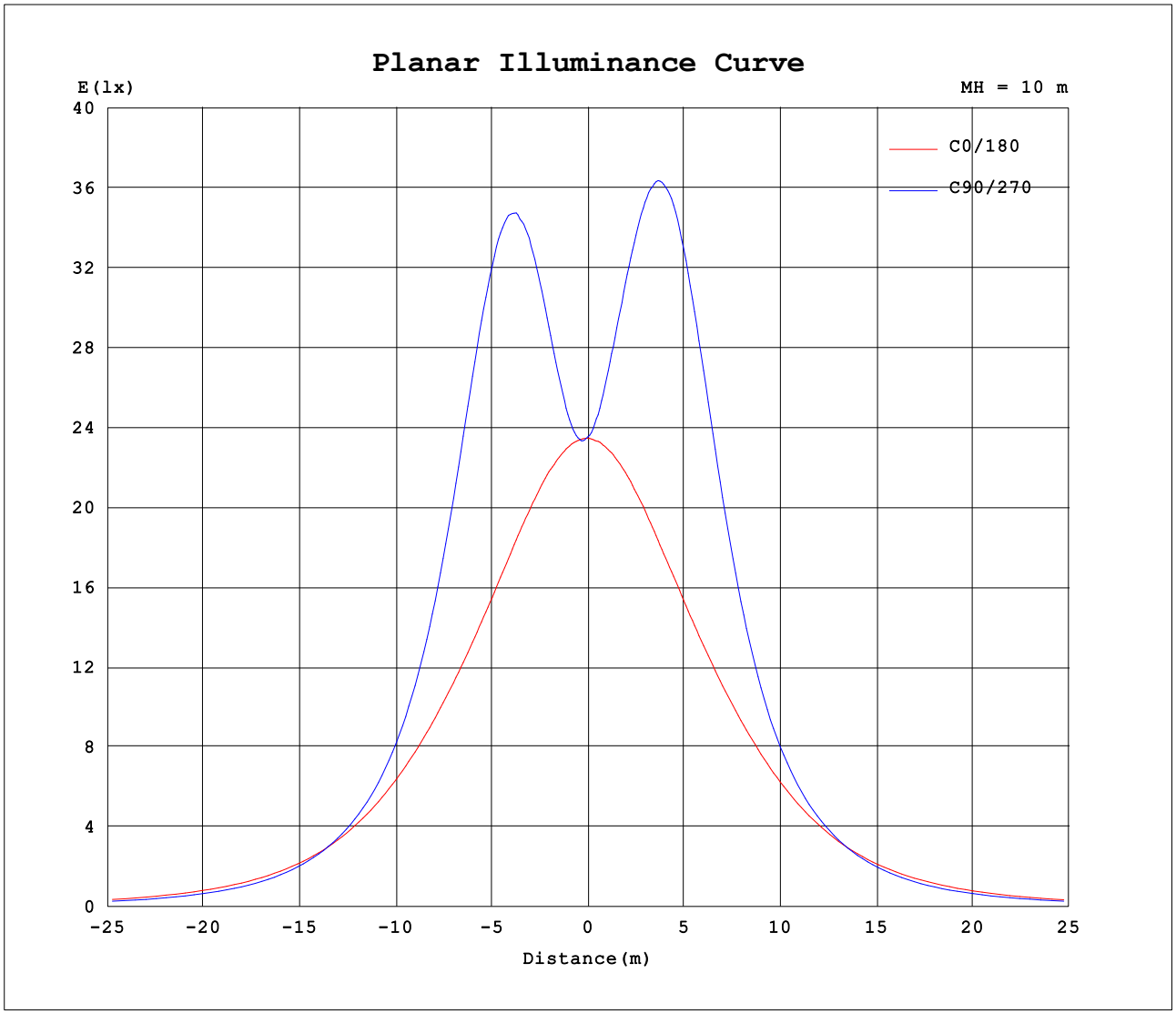
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

Checker: LI

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:

Assessor: