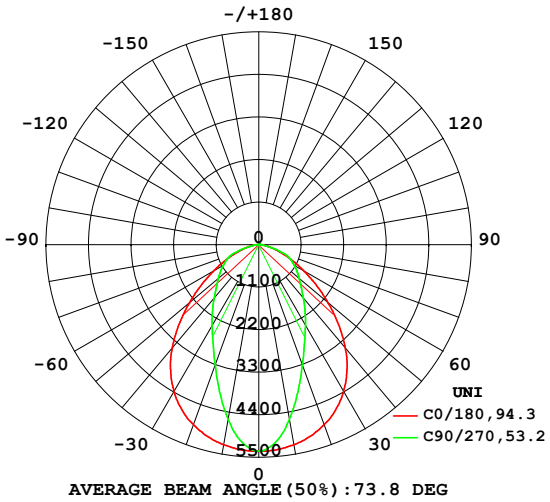
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.9V I:0.3097A P:69.85W PF:0.9809 Freq:49.99Hz UTHDi:0% ITHDi:0% Lamp Flux:9003.24x1 lm		
NAME: LHB19-070-5080-L00112	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

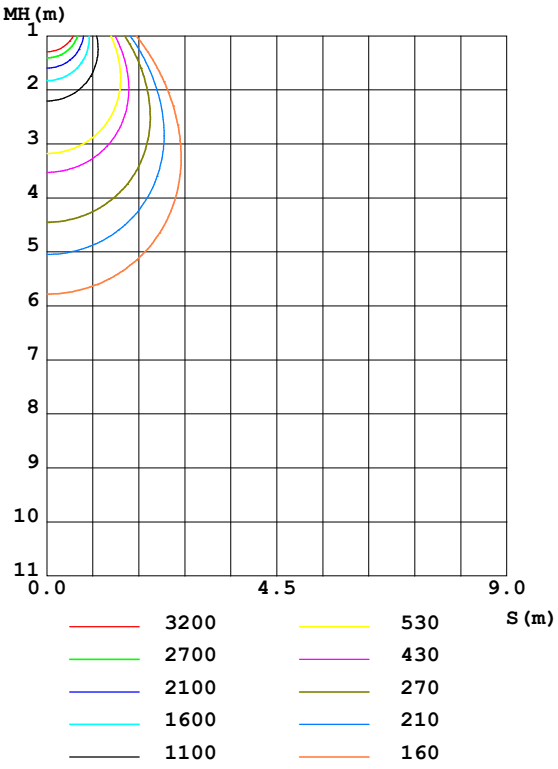
DATA OF LAMP		PHOTOMETRIC DATA		Eff: 128.90 lm/W	
MODEL	SMD283	Imax(cd)	5345	S/MH(C0/180)	1.22
NOMINAL POWER(W)	70	LOR(%)	100.0	S/MH(C90/270)	0.75
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	9003.2	η UP,DN(C0-180)	0.1,49.9
NOMINAL FLUX(lm)	9003.24	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.1,49.9
LAMPS INSIDE	1	η up(%)	0.2	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	99.8	CIBSE SHR MAX	0.95

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):73.8 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:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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	5252	4898	4585	4898	5252	4898	4585	4898	0- 10	488.3	488.3	5.42,5.42
20	4953	3886	3311	3886	4953	3886	3311	3886	10- 20	1253	1742	19.3,19.3
30	4386	2845	2418	2845	4386	2845	2418	2845	20- 30	1629	3371	37.4,37.4
40	3480	2014	1797	2014	3480	2014	1797	2014	30- 40	1682	5053	56.1,56.1
50	2342	1390	1366	1390	2342	1390	1366	1390	40- 50	1485	6538	72.6,72.6
60	1328	937.0	1059	937.0	1328	937.0	1059	937.0	50- 60	1169	7707	85.6,85.6
70	623.1	557.8	716.1	557.8	623.1	557.8	716.1	557.8	60- 70	817.5	8525	94.7,94.7
80	176.7	171.5	142.1	171.5	176.7	171.5	142.1	171.5	70- 80	402.7	8928	99.2,99.2
90	1.776	1.655	0.4692	1.655	1.776	1.655	0.4692	1.655	80- 90	57.46	8985	99.8,99.8
100	1.350	0.9672	0.9032	0.9672	1.350	0.9672	0.9032	0.9672	90-100	0.8092	8986	99.8,99.8
110	2.447	1.527	1.376	1.527	2.447	1.527	1.376	1.527	100-110	1.416	8987	99.8,99.8
120	3.356	2.060	1.755	2.060	3.356	2.060	1.755	2.060	110-120	1.898	8989	99.8,99.8
130	4.372	2.935	2.318	2.935	4.372	2.935	2.318	2.935	120-130	2.422	8992	99.9,99.9
140	5.609	4.057	3.259	4.057	5.609	4.057	3.259	4.057	130-140	2.845	8994	99.9,99.9
150	6.211	5.762	4.564	5.762	6.211	5.762	4.564	5.762	140-150	2.999	8997	99.9,99.9
160	6.679	7.156	6.080	7.156	6.679	7.156	6.080	7.156	150-160	2.831	9000	100,100
170	8.345	8.907	6.907	8.907	8.345	8.907	6.907	8.907	160-170	2.104	9002	100,100
180	8.558	9.458	9.019	9.458	8.558	9.458	9.019	9.458	170-180	0.8491	9003	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 5831.4 lm

%lum = 64.8%
%lamp = 64.8%

Conical surface Flux(120deg): 7707.4 lm

%lum = 85.6%
%lamp = 85.6%

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

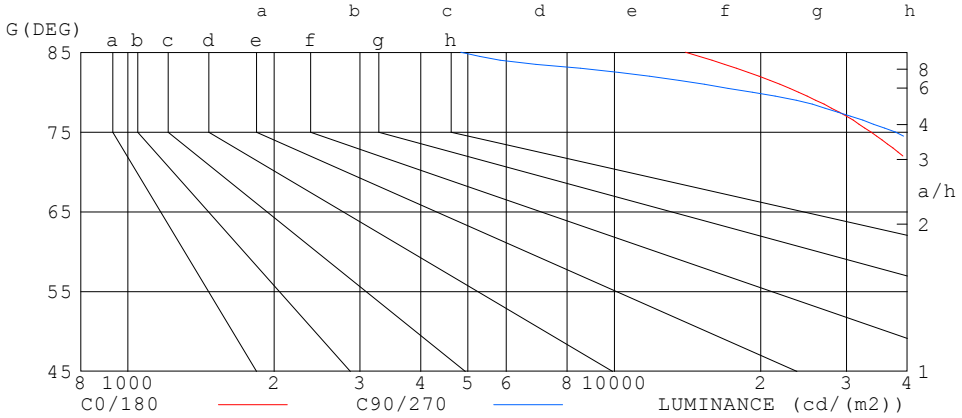
γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

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	14014	4839
80	23932	19219
75	33685	37779
70	42841	49187
65	52069	50608
60	62452	49747
55	73839	49593
50	85683	49936
45	96963	51585

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

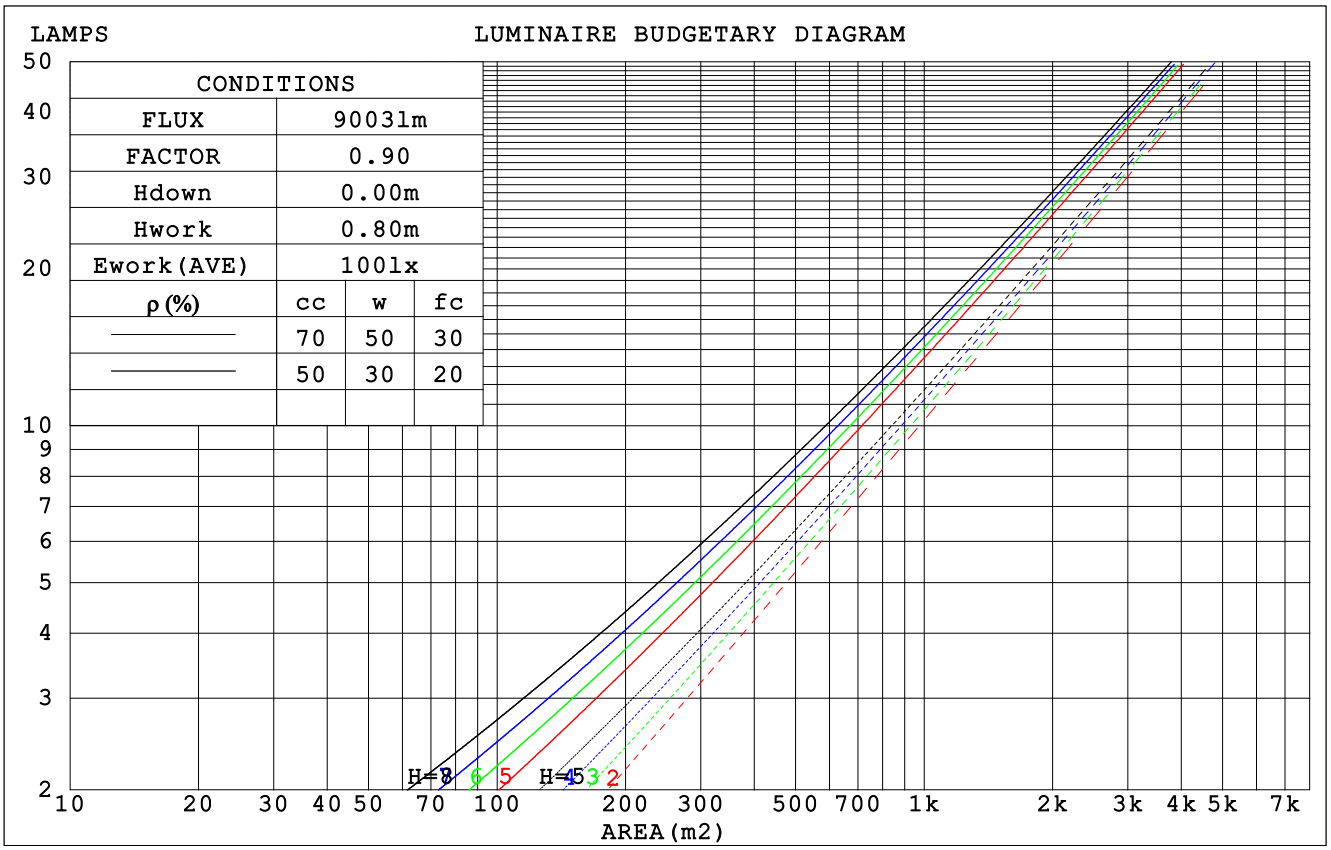
Checker: LI

γ Range: 0 - 180DEG
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	1.01	.98	.00	.97	.94	.96	.94	.92	.92	.90	.89	.87
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.86	.82	.78	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.70	.80	.74	.69	.77	.72	.68	.74	.70	.67	.65
4.0	.76	.68	.62	.74	.67	.61	.72	.65	.60	.70	.64	.60	.68	.63	.59	.57
5.0	.68	.60	.54	.67	.60	.54	.65	.59	.53	.63	.57	.53	.62	.56	.52	.50
6.0	.62	.54	.48	.61	.54	.48	.60	.53	.48	.58	.52	.47	.57	.51	.47	.45
7.0	.57	.49	.43	.56	.49	.43	.55	.48	.43	.53	.47	.43	.52	.47	.42	.40
8.0	.53	.45	.39	.52	.44	.39	.51	.44	.39	.49	.43	.39	.48	.43	.39	.37
9.0	.49	.41	.36	.48	.41	.36	.47	.40	.36	.46	.40	.35	.45	.39	.35	.34
10.0	.45	.38	.33	.45	.38	.33	.44	.37	.33	.43	.37	.33	.42	.37	.33	.31



C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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	.265	.151	.048	.258	.147	.047	.245	.141	.045	.233	.134	.043	.222	.129	.041	
2.0	.255	.140	.043	.249	.137	.042	.237	.132	.041	.227	.127	.040	.217	.123	.039	
3.0	.239	.127	.038	.234	.125	.038	.224	.121	.037	.214	.117	.036	.206	.114	.035	
4.0	.223	.116	.034	.218	.114	.034	.209	.111	.033	.201	.108	.033	.194	.105	.032	
5.0	.208	.106	.031	.204	.105	.030	.196	.102	.030	.189	.100	.030	.182	.097	.029	
6.0	.194	.098	.028	.191	.096	.028	.184	.094	.027	.177	.092	.027	.171	.090	.027	
7.0	.182	.090	.026	.179	.089	.025	.173	.087	.025	.167	.086	.025	.161	.084	.025	
8.0	.171	.084	.024	.168	.083	.023	.163	.081	.023	.157	.080	.023	.152	.078	.023	
9.0	.161	.078	.022	.159	.077	.022	.154	.076	.022	.149	.075	.021	.144	.073	.021	
10.0	.152	.073	.020	.150	.072	.020	.145	.071	.020	.141	.070	.020	.137	.069	.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	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.179	.158	.139	.153	.136	.120	.105	.093	.083	.060	.054	.048	.019	.017	.016	
2.0	.169	.134	.104	.145	.115	.090	.099	.080	.063	.057	.046	.037	.018	.015	.012	
3.0	.160	.116	.080	.137	.100	.070	.094	.069	.049	.054	.040	.029	.017	.013	.009	
4.0	.152	.102	.064	.130	.088	.055	.090	.061	.039	.052	.036	.023	.017	.012	.008	
5.0	.144	.091	.052	.124	.079	.045	.085	.055	.032	.049	.032	.019	.016	.011	.006	
6.0	.137	.083	.043	.118	.072	.038	.081	.050	.027	.047	.029	.016	.015	.010	.005	
7.0	.131	.076	.037	.112	.066	.032	.078	.046	.023	.045	.027	.014	.015	.009	.005	
8.0	.125	.070	.032	.107	.061	.028	.074	.042	.020	.043	.025	.012	.014	.008	.004	
9.0	.119	.065	.028	.102	.056	.025	.071	.040	.018	.041	.023	.010	.013	.008	.003	
10.0	.113	.060	.025	.098	.053	.022	.068	.037	.016	.040	.022	.009	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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	25.9	27.3	26.2	27.7	28.0	24.8	26.3	25.2	26.6	26.9
	3H	27.2	28.5	27.6	28.9	29.2	27.0	28.3	27.4	28.7	29.0
	4H	27.6	28.8	28.0	29.2	29.6	27.6	28.8	28.0	29.2	29.6
	6H	27.8	29.0	28.2	29.3	29.7	27.8	28.9	28.2	29.3	29.7
	8H	27.8	28.9	28.3	29.3	29.7	27.7	28.8	28.2	29.2	29.6
	12H	27.8	28.9	28.3	29.3	29.7	27.7	28.8	28.2	29.2	29.6
4H	2H	26.2	27.4	26.6	27.8	28.2	25.3	26.5	25.7	26.9	27.3
	3H	27.7	28.7	28.1	29.1	29.5	27.7	28.7	28.1	29.1	29.5
	4H	28.2	29.1	28.6	29.5	30.0	28.4	29.3	28.8	29.7	30.1
	6H	28.5	29.3	28.9	29.7	30.2	28.6	29.4	29.1	29.9	30.3
	8H	28.5	29.3	29.0	29.7	30.2	28.6	29.4	29.1	29.8	30.3
	12H	28.5	29.2	29.0	29.7	30.2	28.6	29.2	29.1	29.7	30.2
8H	4H	28.4	29.1	28.8	29.6	30.0	28.5	29.3	29.0	29.7	30.2
	6H	28.7	29.3	29.2	29.8	30.3	28.8	29.4	29.3	29.9	30.4
	8H	28.8	29.3	29.3	29.9	30.3	28.8	29.4	29.3	29.9	30.4
	12H	28.8	29.3	29.3	29.8	30.4	28.8	29.3	29.3	29.8	30.4
12H	4H	28.3	29.0	28.8	29.5	30.0	28.5	29.2	29.0	29.6	30.1
	6H	28.7	29.3	29.2	29.7	30.3	28.8	29.4	29.3	29.8	30.4
	8H	28.8	29.3	29.3	29.8	30.4	28.8	29.3	29.3	29.8	30.4
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:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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	64	54	48	64	54	48	63	53	47	42
0.80	74	64	57	73	63	57	71	63	57	51
1.00	82	72	66	81	72	65	79	73	65	59
1.25	88	79	73	87	79	73	84	77	72	65
1.50	93	84	78	91	83	78	88	82	77	70
2.00	99	91	86	97	90	85	94	88	84	76
2.50	102	95	90	100	94	89	97	92	87	80
3.00	105	99	94	103	98	93	99	95	91	83
4.00	108	104	100	106	102	98	102	99	96	87
5.00	111	106	103	108	105	101	104	101	98	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

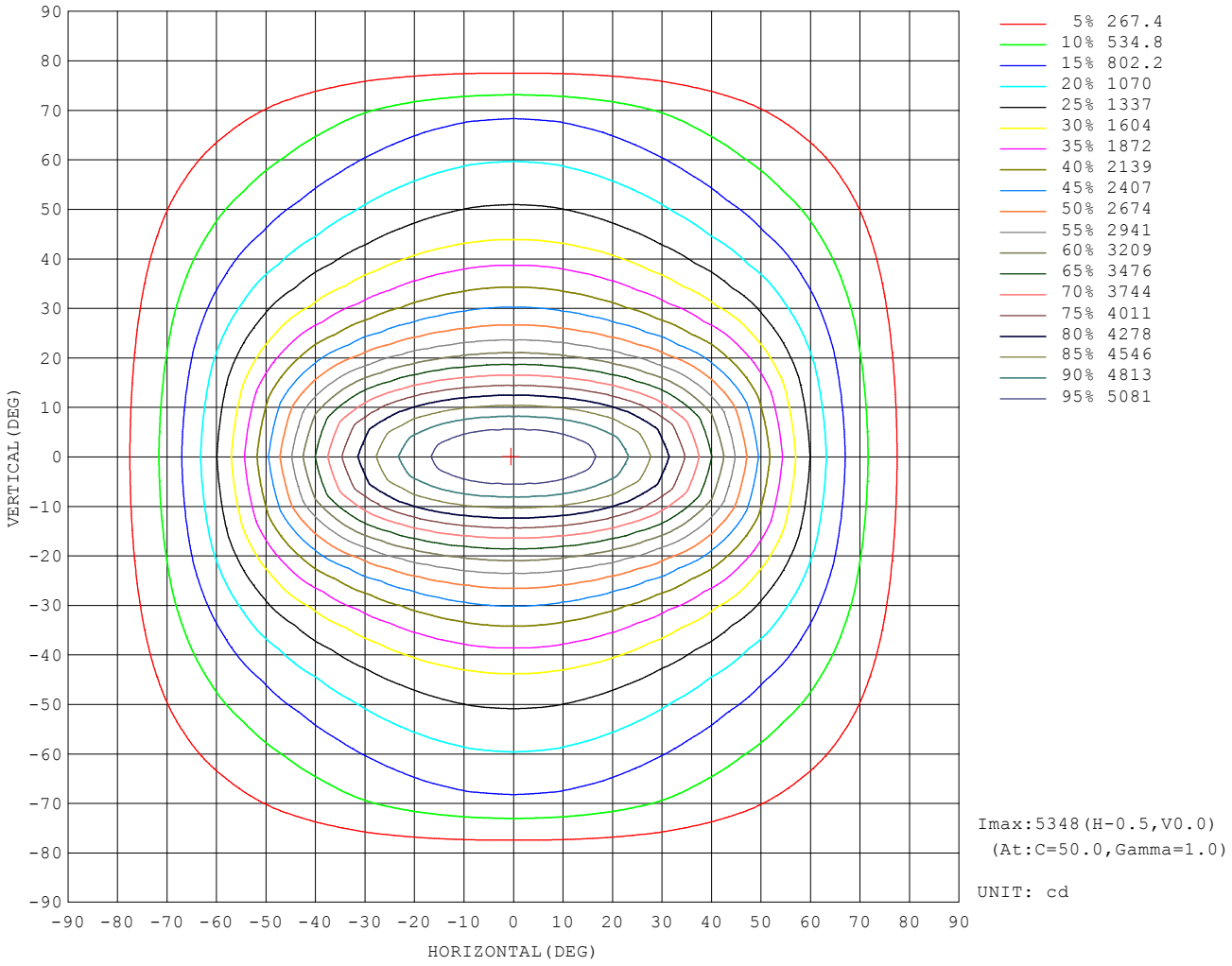
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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



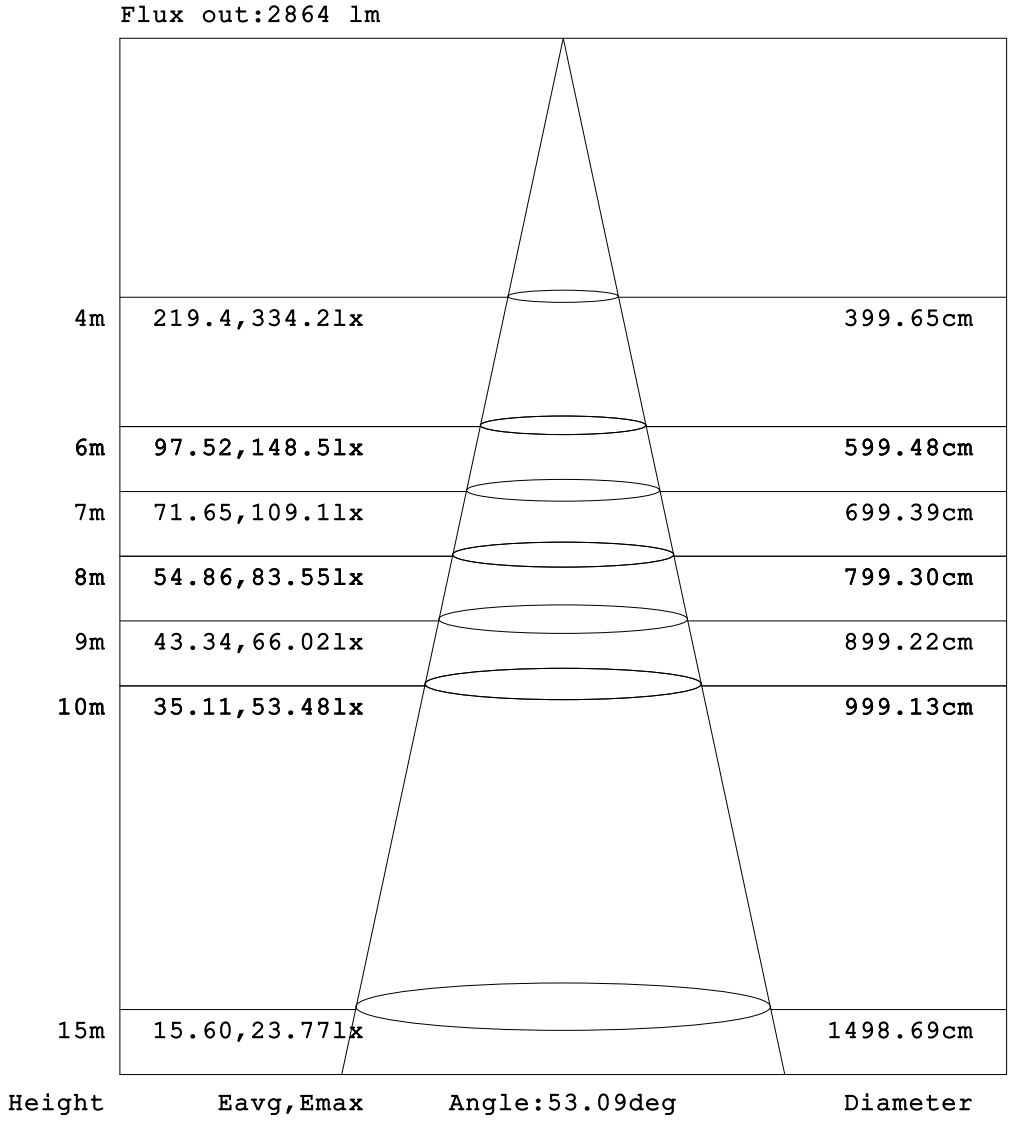
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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:

AAI Figure



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

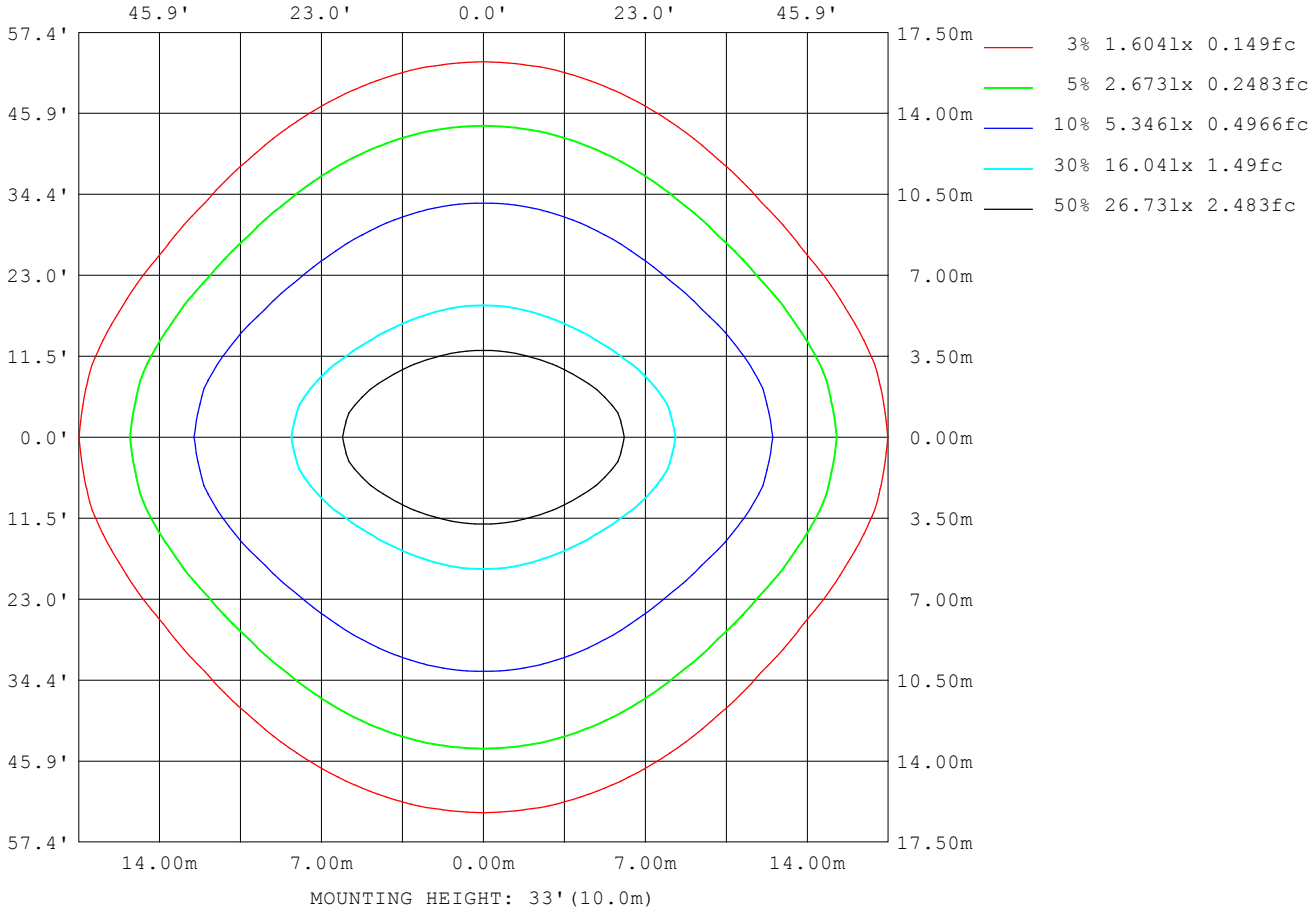
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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



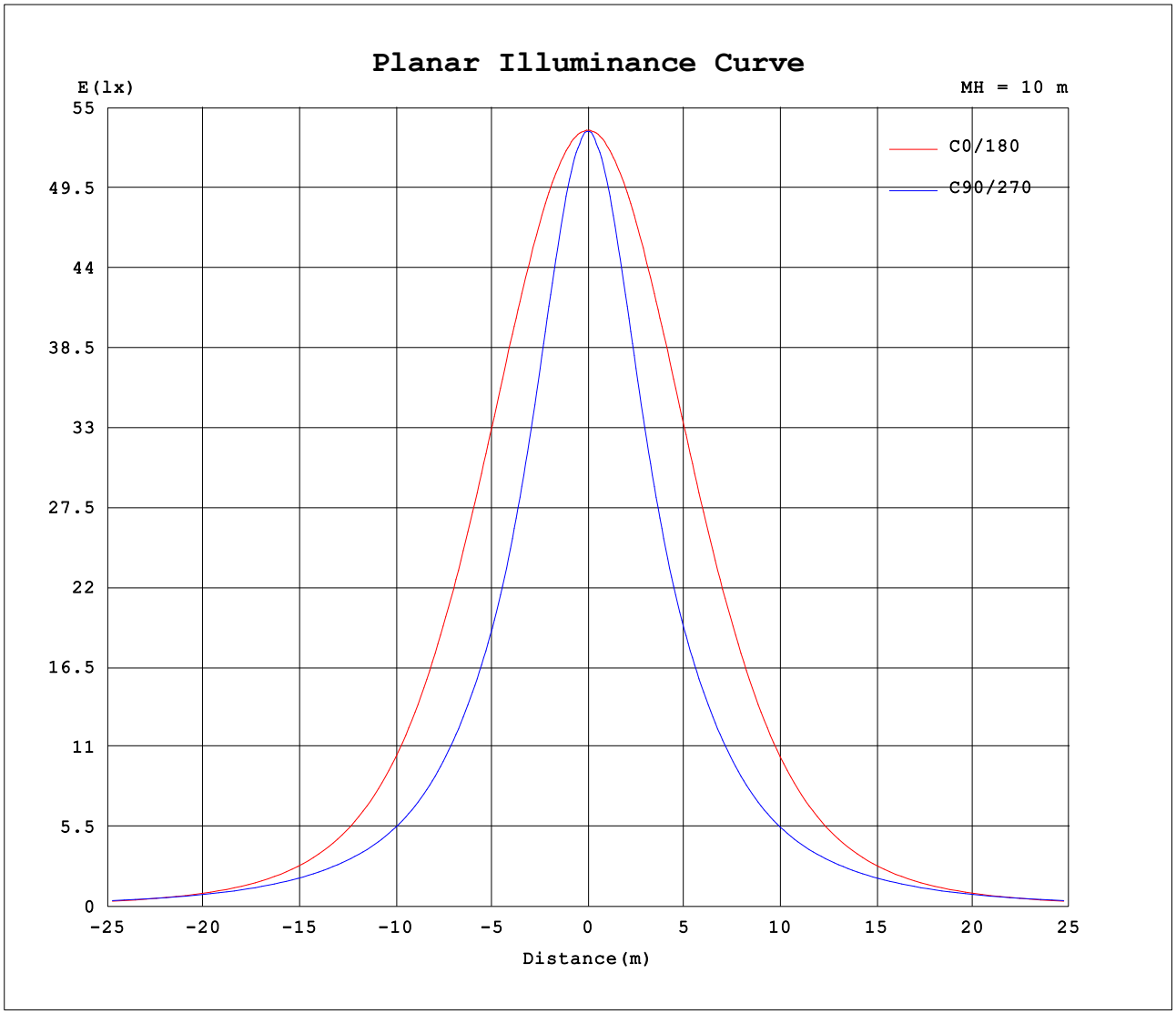
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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:2020-07-30

Checker: LI

γ Range: 0 - 180DEG
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: