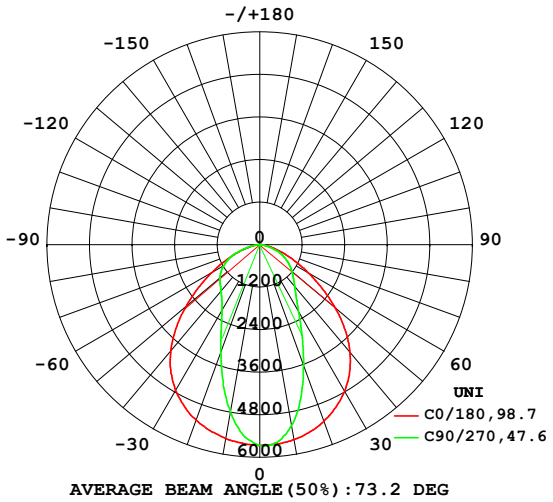
LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:229.9V I:0.3092A P:69.72W PF:0.9809 Freq:50.01Hz UTHDi:0% ITHDi:0% Lamp Flux:9174.69x1 lm		
NAME: LHB19-070-5080-L00111	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

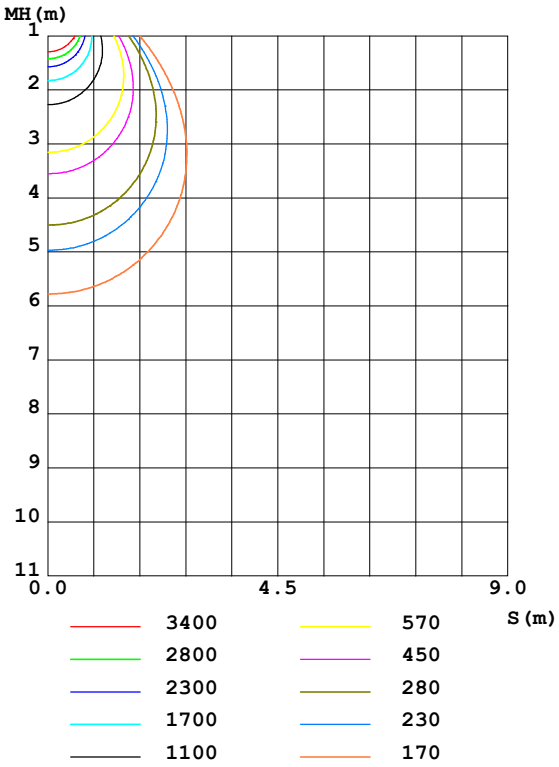
DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.59 lm/W			
MODEL	SMD283	Imax(cd)	5694	S/MH(C0/180)	1.24
NOMINAL POWER(W)	70	LOR(%)	100.0	S/MH(C90/270)	0.69
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	9174.7	η UP,DN(C0-180)	0.0,50.0
NOMINAL FLUX(lm)	9174.69	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230	η down(%)	100.0	CIBSE SHR MAX	0.90

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



AVERAGE BEAM ANGLE(50%):73.2 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	5581	5422	5184	5400	5553	5122	4783	5132	0- 10	522.2	522.2	5.69,5.69
20	5298	4407	3616	4358	5259	3966	3227	3964	10- 20	1347	1869	20.4,20.4
30	4784	2993	2199	2947	4752	2714	2135	2713	20- 30	1692	3561	38.8,38.8
40	3955	1922	1539	1893	3909	1894	1705	1903	30- 40	1677	5238	57.1,57.1
50	2784	1335	1193	1317	2718	1431	1472	1447	40- 50	1500	6738	73.4,73.4
60	1571	892.7	873.0	878.6	1540	1010	1166	1033	50- 60	1207	7945	86.6,86.6
70	705.2	495.4	503.4	483.3	685.1	560.7	711.5	580.7	60- 70	814.3	8759	95.5,95.5
80	195.3	133.0	99.99	121.2	176.3	141.6	149.0	156.1	70- 80	368.5	9128	99.5,99.5
90	5.429	3.626	0.4568	2.774	0.6453	2.666	0.3900	3.786	80- 90	47.17	9175	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): 6017.3 lm

%lum = 65.6%
%lamp = 65.6%

Conical surface Flux(120deg): 7944.6 lm

%lum = 86.6%
%lamp = 86.6%

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

Checker: LI

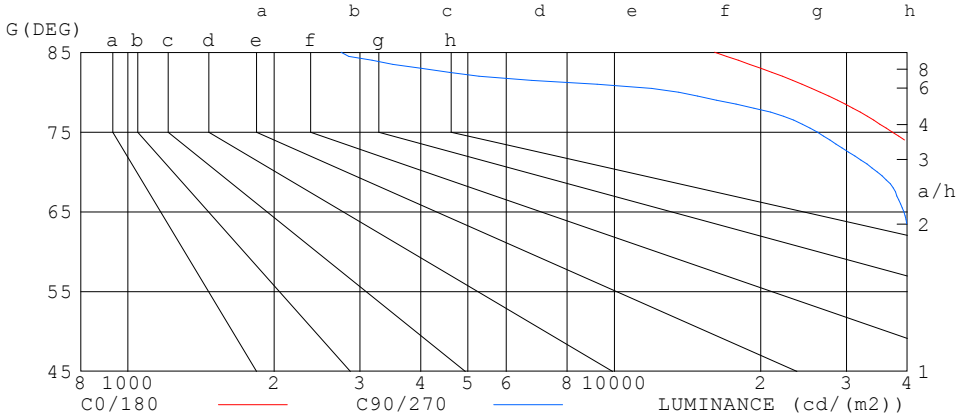
γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.00.426
Humidity:65.0%
Test Distance:26.000m [K=0.4589]
Remarks:

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	16082	2742
80	26508	13576
75	37241	26117
70	48601	34698
65	60980	39359
60	74051	41165
55	88087	42537
50	102102	43746
45	113682	45027

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

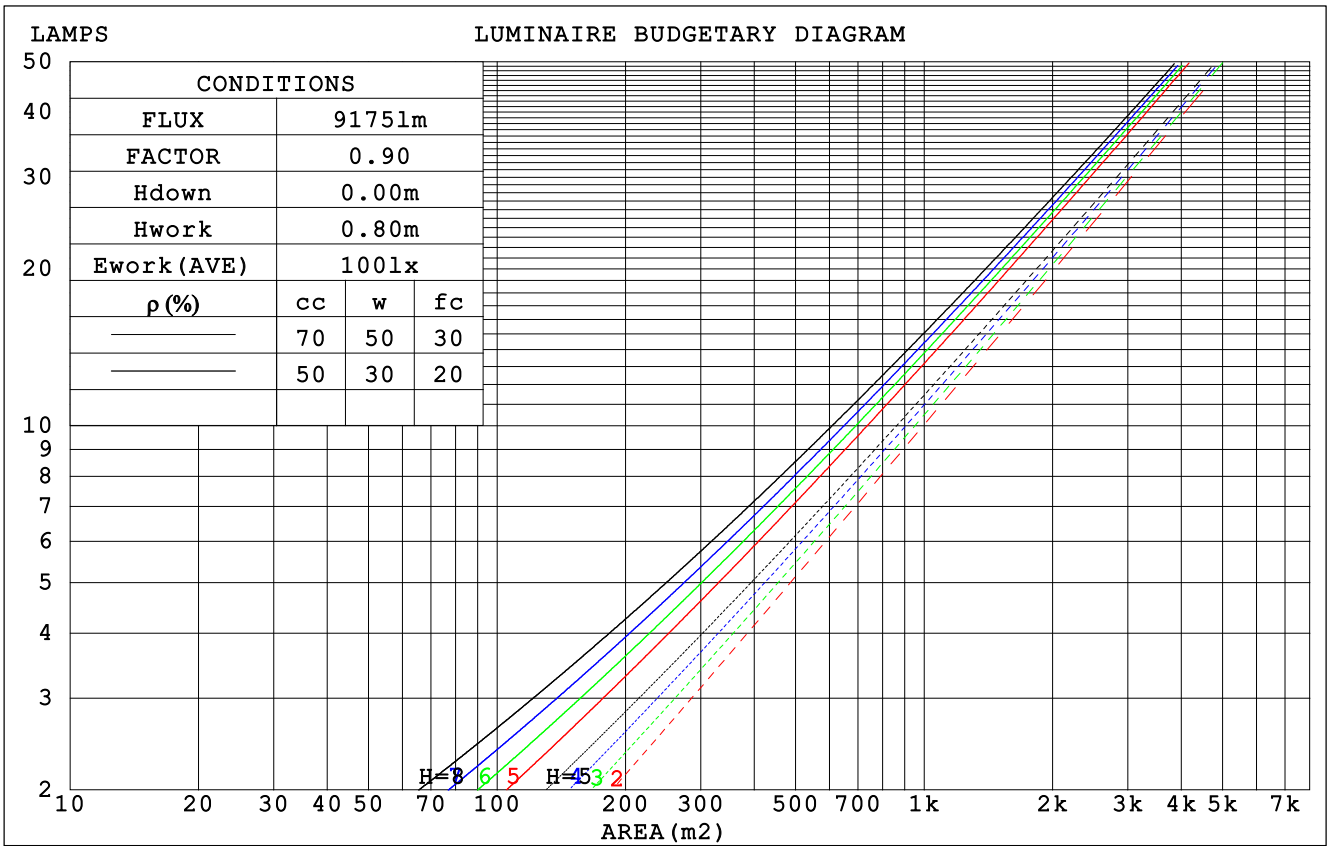
Checker: LI

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	1.03	.00	1.04	1.01	.98	1.00	.97	.95	.96	.94	.92	.93	.91	.89	.87
2.0	.95	.89	.84	.93	.87	.83	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.85	.77	.72	.83	.77	.71	.80	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.76	.68	.62	.75	.68	.62	.73	.66	.61	.70	.65	.60	.68	.64	.60	.58
5.0	.69	.61	.55	.68	.60	.55	.66	.59	.54	.64	.58	.54	.62	.57	.53	.51
6.0	.63	.55	.49	.62	.54	.49	.60	.54	.48	.59	.53	.48	.57	.52	.48	.46
7.0	.58	.50	.44	.57	.49	.44	.56	.49	.44	.54	.48	.43	.53	.47	.43	.41
8.0	.53	.45	.40	.53	.45	.40	.51	.45	.40	.50	.44	.40	.49	.44	.39	.38
9.0	.49	.42	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.46	.40	.36	.34
10.0	.46	.39	.34	.45	.38	.34	.45	.38	.34	.44	.38	.33	.43	.37	.33	.32



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	.260	.148	.047	.253	.145	.046	.240	.138	.044	.228	.132	.042	.217	.126	.041	
2.0	.251	.137	.042	.245	.135	.042	.234	.130	.040	.223	.125	.039	.213	.121	.038	
3.0	.236	.126	.038	.231	.123	.037	.221	.120	.036	.211	.116	.036	.203	.112	.035	
4.0	.220	.115	.034	.216	.113	.033	.207	.110	.033	.199	.107	.032	.191	.104	.032	
5.0	.206	.105	.030	.202	.104	.030	.194	.101	.030	.187	.099	.029	.180	.096	.029	
6.0	.193	.097	.028	.189	.095	.027	.182	.093	.027	.176	.091	.027	.170	.089	.027	
7.0	.181	.089	.025	.177	.088	.025	.171	.087	.025	.165	.085	.025	.160	.083	.024	
8.0	.170	.083	.023	.167	.082	.023	.161	.081	.023	.156	.079	.023	.151	.078	.023	
9.0	.160	.077	.022	.157	.077	.022	.152	.075	.021	.148	.074	.021	.143	.073	.021	
10.0	.151	.072	.020	.149	.072	.020	.144	.071	.020	.140	.070	.020	.136	.068	.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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.177	.157	.138	.151	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.056	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.063	.129	.087	.054	.088	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.142	.090	.051	.122	.078	.044	.084	.054	.031	.049	.032	.019	.016	.010	.006	
6.0	.135	.081	.042	.116	.070	.037	.080	.049	.026	.046	.029	.015	.015	.009	.005	
7.0	.129	.074	.036	.111	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.073	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.117	.063	.027	.100	.055	.023	.070	.038	.017	.041	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.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	26.3	27.8	26.7	28.1	28.4	23.6	25.1	24.0	25.4	25.7
3H	27.7	29.1	28.1	29.4	29.7	25.3	26.6	25.7	27.0	27.3
4H	28.1	29.4	28.5	29.7	30.1	25.7	27.0	26.1	27.3	27.7
6H	28.3	29.5	28.8	29.9	30.2	25.9	27.0	26.3	27.4	27.8
8H	28.4	29.5	28.8	29.9	30.3	25.8	26.9	26.3	27.3	27.7
12H	28.4	29.4	28.8	29.8	30.2	25.8	26.8	26.2	27.2	27.7
4H 2H	26.5	27.7	26.9	28.1	28.5	24.2	25.4	24.6	25.8	26.2
3H	28.1	29.1	28.5	29.5	29.9	26.0	27.1	26.4	27.5	27.9
4H	28.6	29.5	29.0	29.9	30.3	26.5	27.4	26.9	27.8	28.3
6H	28.9	29.7	29.3	30.1	30.6	26.7	27.5	27.2	27.9	28.4
8H	28.9	29.7	29.4	30.1	30.6	26.7	27.4	27.1	27.9	28.3
12H	29.0	29.6	29.4	30.1	30.6	26.6	27.3	27.1	27.8	28.2
8H 4H	28.6	29.4	29.1	29.8	30.3	26.7	27.4	27.1	27.9	28.3
6H	29.0	29.6	29.5	30.1	30.6	26.9	27.5	27.4	28.0	28.5
8H	29.1	29.6	29.6	30.1	30.6	26.9	27.4	27.4	27.9	28.4
12H	29.1	29.6	29.6	30.1	30.7	26.8	27.3	27.3	27.8	28.4
12H 4H	28.6	29.3	29.1	29.8	30.2	26.7	27.3	27.2	27.8	28.3
6H	29.0	29.5	29.5	30.0	30.5	26.9	27.4	27.4	27.9	28.4
8H	29.1	29.5	29.6	30.0	30.6	26.9	27.4	27.4	27.8	28.4
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:2020-08-11

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	65	55	48	64	54	48	63	54	48	42
0.80	75	64	58	74	64	58	72	63	57	51
1.00	82	73	66	81	72	66	79	73	66	59
1.25	89	80	74	88	79	73	85	78	73	66
1.50	93	85	79	92	84	79	89	82	77	71
2.00	99	92	87	97	91	86	94	89	84	77
2.50	102	96	91	101	95	90	97	92	88	81
3.00	105	100	95	103	98	94	99	95	92	84
4.00	109	104	100	106	102	99	102	99	96	88
5.00	111	107	103	108	105	102	104	101	99	90
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004				Suspended					SHRNOM = 1.25	

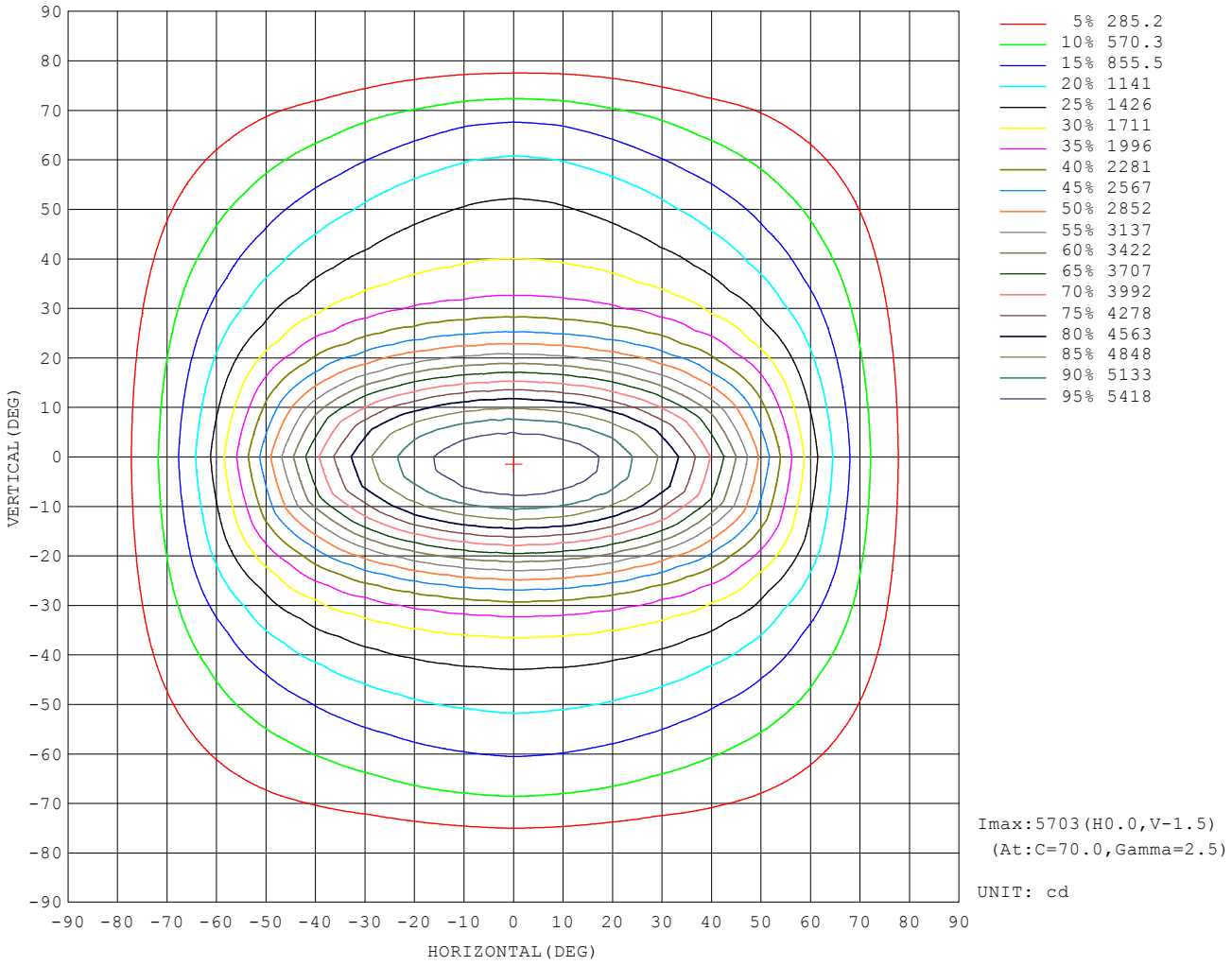
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

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



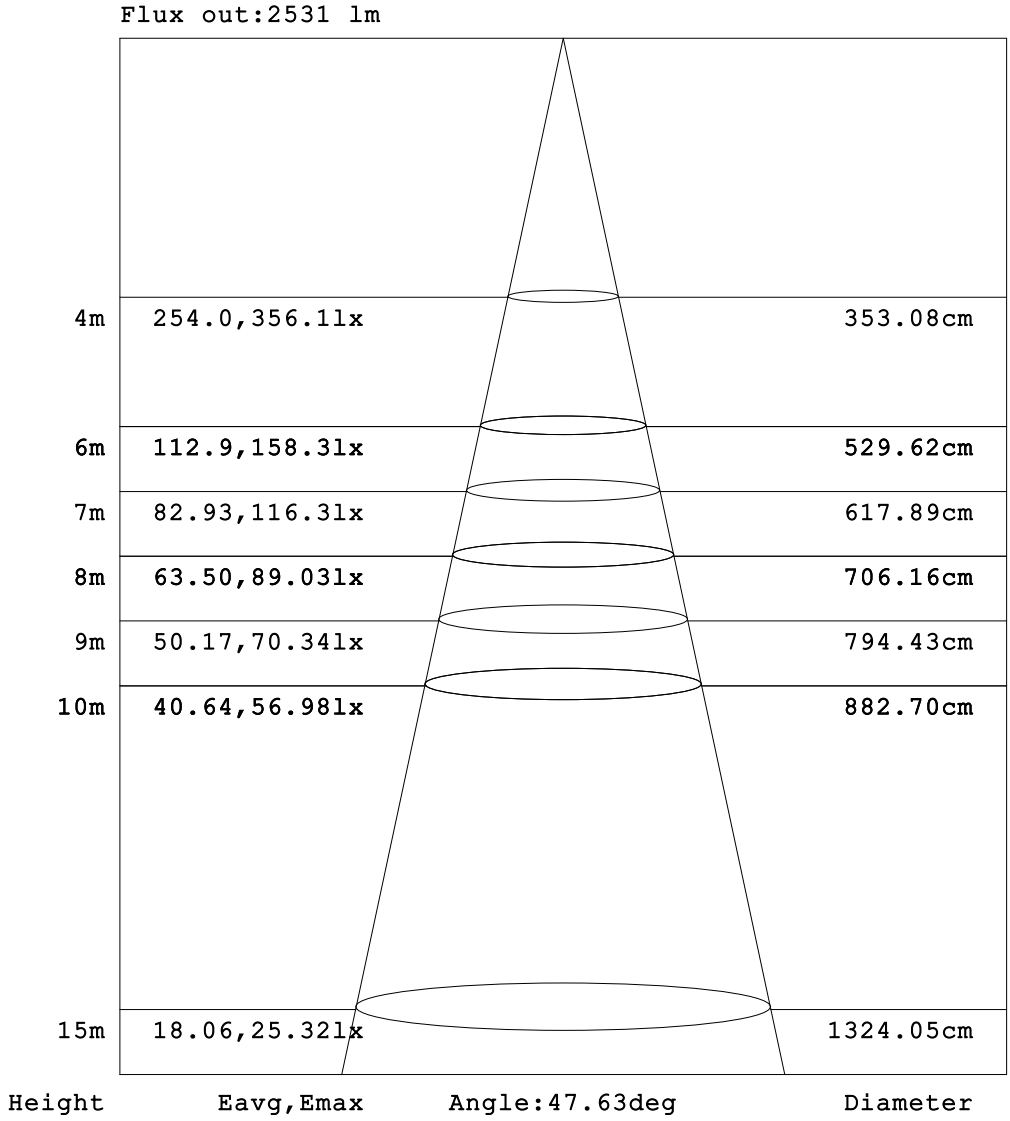
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

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:

AAI Figure



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

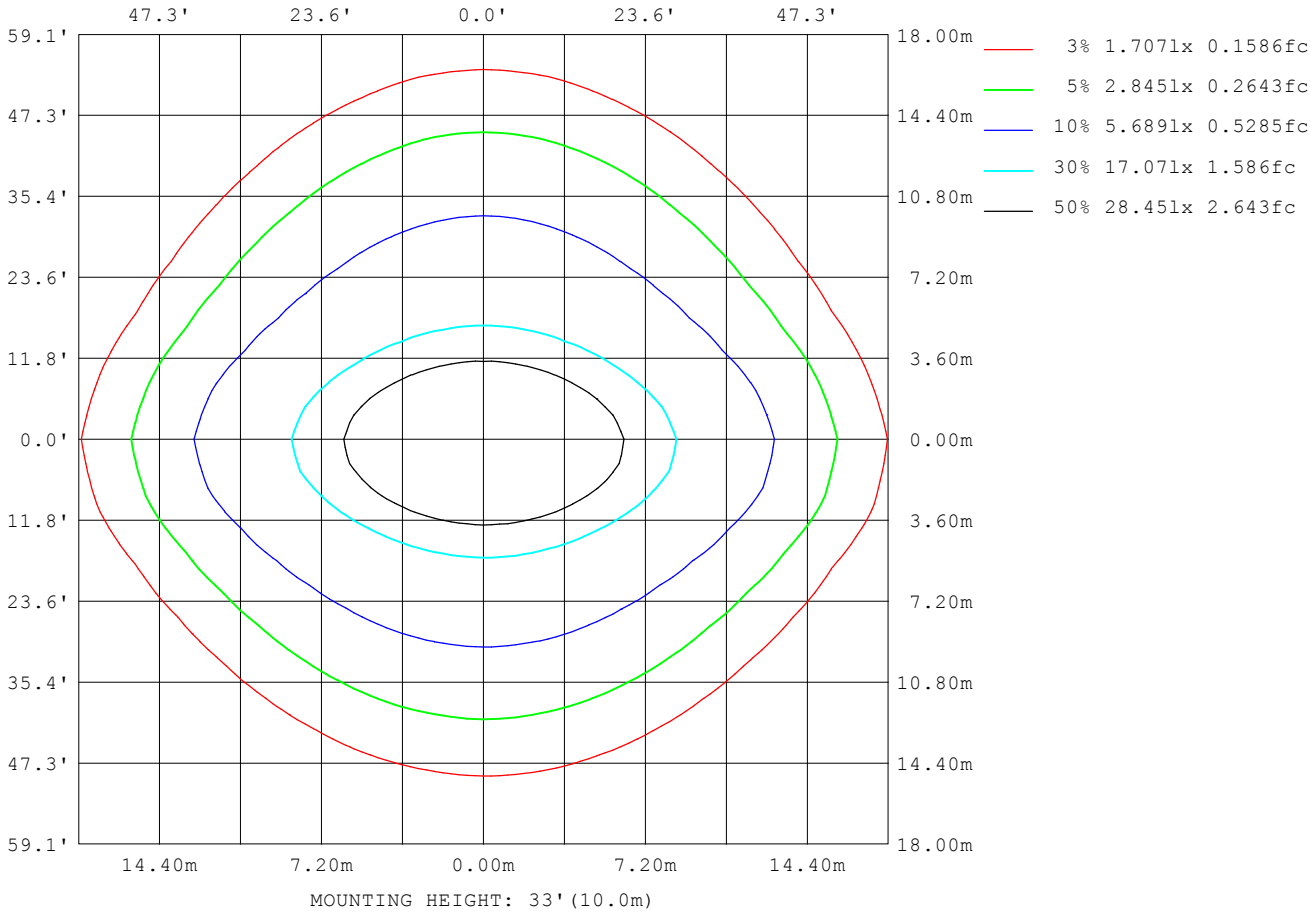
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

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



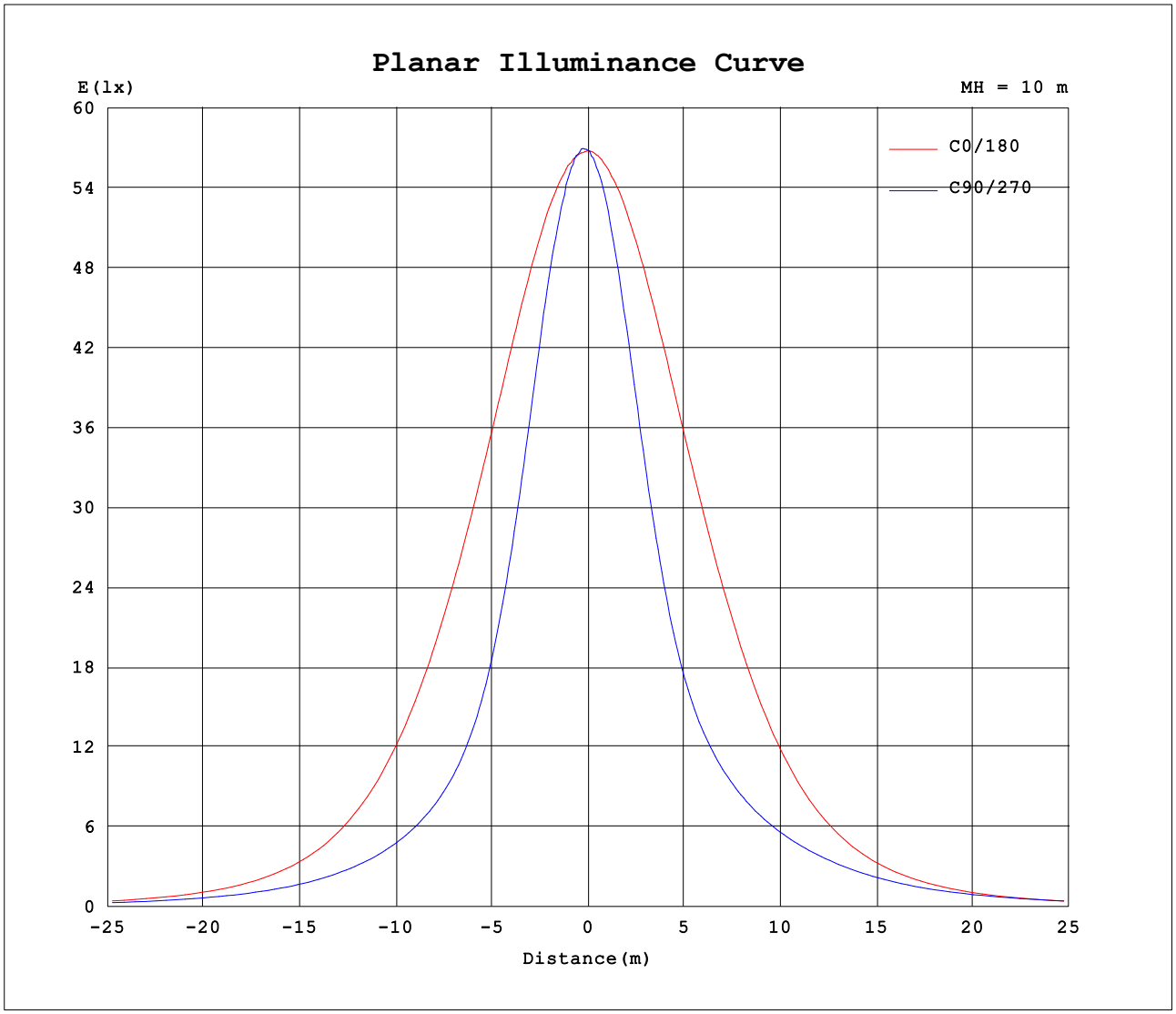
C Range: 0 - 360DEG
C Interval: 10.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:LYJ
Test Date:2020-08-11

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: