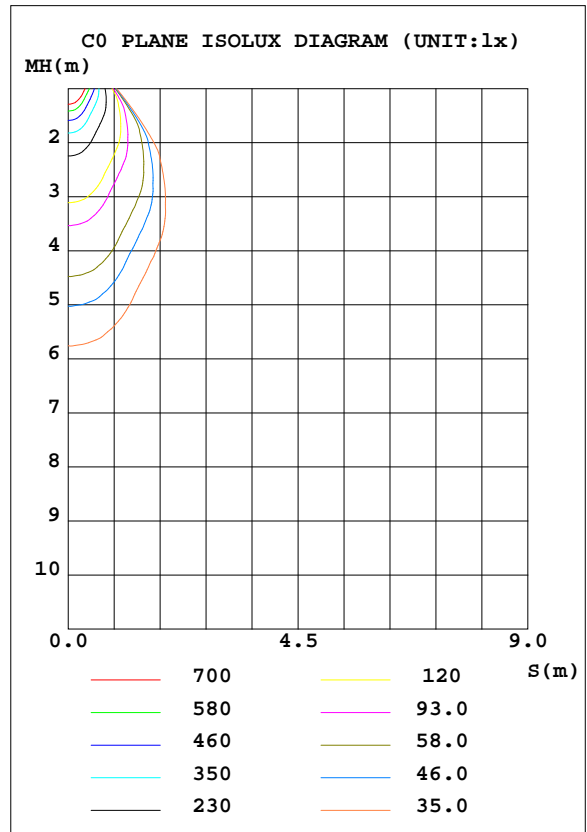
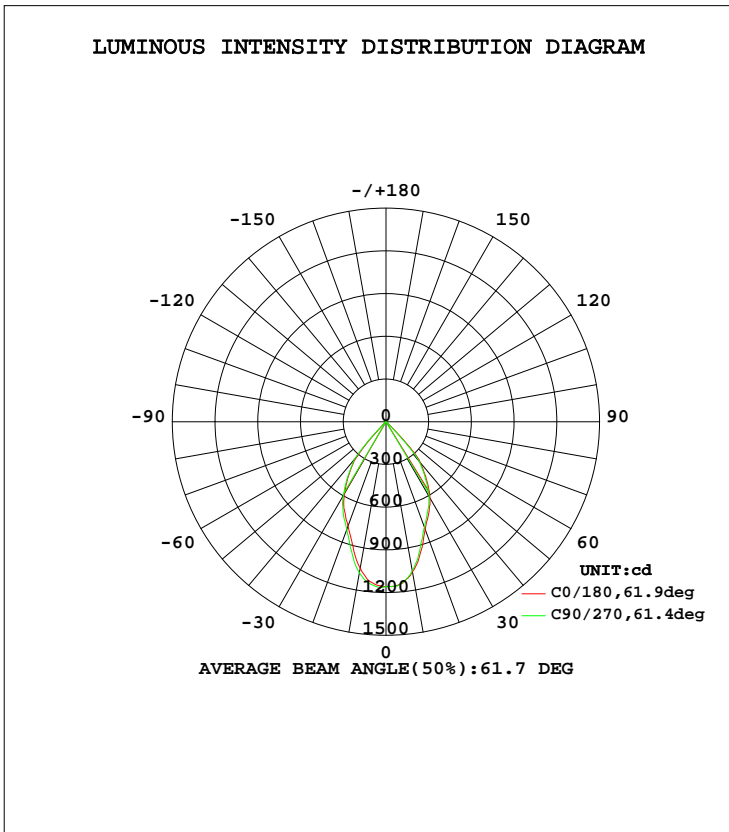


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 81.22 lm/W			
MODEL	LED-DL13WCOB-NW-B	I _{max} (cd)	1165	S/MH(C0/180)	0.83
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	0.86
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	1088.3	η UP, DN(C0-180)	0.0, 49.3
NOMINAL FLUX(lm)	1088.33	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	240.9	η down(%)	100.0	CIBSE SHR MAX	1.05



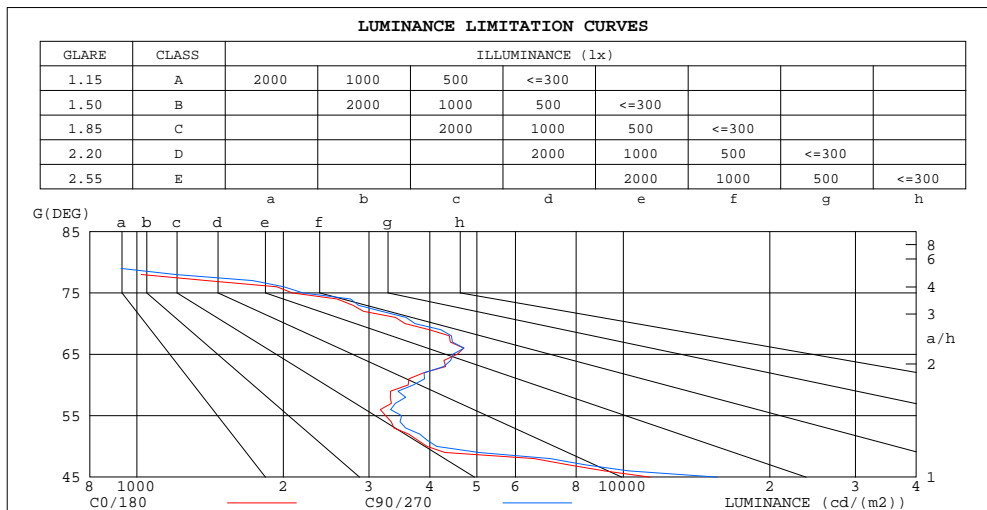
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM
AND LUMINANCE LIMITATION CURVES

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	Φ lum, lamp
10	1045	1065	1078	1077	1071	1064	1063	1055	0- 10	106.7	106.7	9.81,9.81
20	781.6	795.9	806.1	800.9	805.6	794.9	790.7	782.9	10- 20	259.0	365.7	33.6,33.6
30	586.2	595.7	599.4	607.1	615.8	608.2	607.4	593.2	20- 30	321.3	687.0	63.1,63.1
40	311.6	331.0	346.9	360.7	375.5	369.2	365.6	346.3	30- 40	295.2	982.3	90.3,90.3
50	10.14	11.16	10.64	11.67	17.25	15.99	14.62	10.77	40- 50	88.24	1071	98.4,98.4
60	7.212	7.251	7.412	6.681	6.973	7.128	7.250	7.196	50- 60	7.539	1078	99.1,99.1
70	4.859	4.887	5.112	5.887	6.760	6.626	6.311	5.265	60- 70	7.201	1085	99.7,99.7
80	0.0953	0.0700	0.1831	0.5334	0.8659	0.8351	0.7248	0.3440	70- 80	3.010	1088	100,100
90	0.0070	0.0141	0.0141	0	0.0281	0.0141	0.0070	0.0070	80- 90	0.0636	1088	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		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	61	81
80	138	263
75	2086	2196
70	3560	3733
65	4558	4467
60	3614	3702
55	3246	3501
50	3951	4133
45	11347	15602

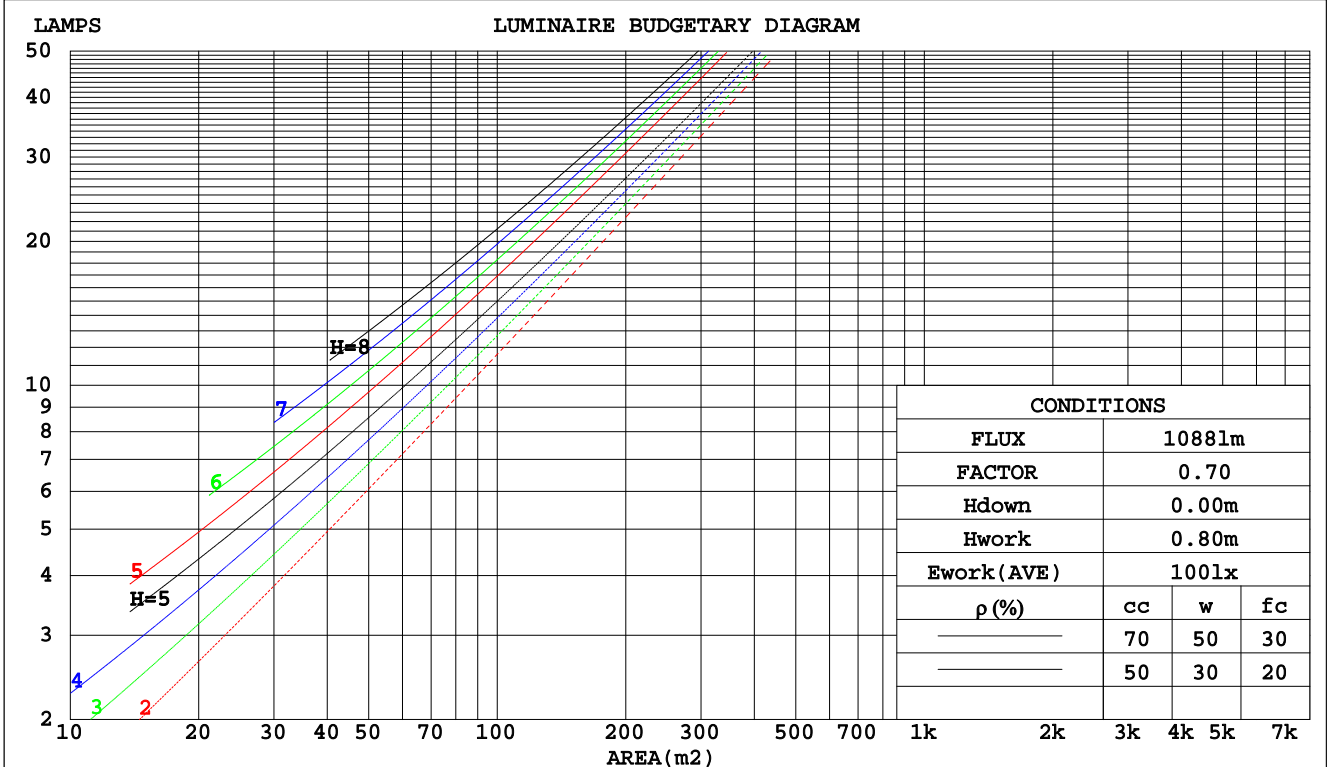
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:10.237m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																0
pfc	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	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.93	.97	.94	.91	.94	.92	.89	.92	.89	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.88	.85	.82	.86	.83	.81	.79
4.0	.88	.83	.78	.87	.82	.78	.85	.80	.77	.83	.79	.76	.81	.78	.75	.73
5.0	.82	.76	.72	.81	.76	.71	.79	.75	.71	.78	.73	.70	.76	.72	.69	.68
6.0	.77	.71	.66	.76	.70	.66	.74	.69	.65	.73	.68	.65	.72	.68	.64	.63
7.0	.72	.66	.61	.71	.65	.61	.70	.65	.61	.69	.64	.60	.68	.63	.60	.59
8.0	.67	.61	.57	.67	.61	.57	.66	.60	.57	.65	.60	.56	.64	.59	.56	.55
9.0	.63	.57	.53	.63	.57	.53	.62	.57	.53	.61	.56	.53	.60	.56	.52	.51
10.0	.60	.54	.50	.59	.53	.50	.58	.53	.49	.58	.53	.49	.57	.52	.49	.48



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 10.237m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:

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 Coefficients(WEC)									
0.0																
1.0	.185	.105	.033	.178	.102	.032	.165	.095	.030	.154	.089	.028	.143	.083	.027	
2.0	.178	.098	.030	.172	.095	.029	.162	.090	.028	.152	.085	.027	.143	.081	.025	
3.0	.170	.091	.027	.165	.089	.027	.156	.085	.026	.148	.081	.025	.140	.077	.024	
4.0	.162	.084	.025	.158	.083	.024	.150	.080	.024	.143	.077	.023	.136	.074	.023	
5.0	.155	.079	.023	.151	.078	.023	.144	.075	.022	.138	.073	.022	.132	.071	.021	
6.0	.148	.074	.021	.145	.073	.021	.139	.071	.021	.133	.069	.020	.128	.067	.020	
7.0	.142	.070	.020	.139	.069	.020	.133	.067	.019	.128	.066	.019	.123	.064	.019	
8.0	.135	.066	.019	.133	.065	.018	.128	.064	.018	.123	.063	.018	.119	.061	.018	
9.0	.130	.063	.018	.127	.062	.017	.123	.061	.017	.119	.060	.017	.115	.058	.017	
10.0	.124	.060	.017	.122	.059	.016	.118	.058	.016	.115	.057	.016	.111	.056	.016	

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.135	.114	.097	.092	.079	.067	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.088	.125	.098	.077	.086	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.058	.109	.076	.051	.075	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.120	.078	.049	.103	.068	.042	.071	.048	.030	.041	.028	.018	.013	.009	.006	
7.0	.114	.071	.041	.098	.062	.036	.068	.043	.025	.039	.025	.015	.013	.008	.005	
8.0	.108	.065	.035	.093	.056	.031	.064	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.103	.060	.030	.089	.052	.027	.062	.036	.019	.036	.022	.011	.012	.007	.004	
10.0	.099	.055	.027	.085	.048	.023	.059	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

Uncorrected UGR Table

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm										
NAME: LED-DL13WCOB-NW-B					TYPE:13W			WEIGHT:		
DIM.:					SPEC.:4000K			SERIAL No.:		
MFR.: EVERFINE					SUR.:0.0040			PROTECTION ANGLE:		
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	21.5	22.5	21.7	22.7	22.8	21.8	22.8	22.0	22.9	23.1
3H	21.4	22.3	21.6	22.5	22.7	21.6	22.6	21.9	22.8	23.0
4H	21.3	22.1	21.6	22.4	22.6	21.6	22.4	21.8	22.7	22.9
6H	21.2	22.0	21.5	22.2	22.5	21.5	22.3	21.8	22.5	22.8
8H	21.1	21.9	21.5	22.2	22.4	21.4	22.2	21.7	22.5	22.7
12H	21.1	21.8	21.4	22.1	22.4	21.4	22.1	21.7	22.4	22.7
4H 2H	21.2	22.1	21.5	22.3	22.6	21.5	22.4	21.8	22.6	22.8
3H	21.1	21.9	21.4	22.1	22.4	21.4	22.1	21.7	22.4	22.7
4H	21.0	21.7	21.4	22.0	22.3	21.3	22.0	21.7	22.3	22.6
6H	21.0	21.5	21.3	21.9	22.2	21.2	21.8	21.6	22.2	22.5
8H	20.9	21.5	21.3	21.8	22.2	21.2	21.7	21.6	22.1	22.5
12H	20.9	21.4	21.3	21.7	22.1	21.1	21.6	21.5	22.0	22.4
8H 4H	20.9	21.5	21.3	21.8	22.2	21.2	21.7	21.6	22.1	22.5
6H	20.8	21.3	21.2	21.7	22.1	21.1	21.5	21.5	21.9	22.4
8H	20.8	21.2	21.2	21.6	22.0	21.0	21.4	21.5	21.9	22.3
12H	20.7	21.0	21.2	21.5	22.0	21.0	21.3	21.5	21.8	22.2
12H 4H	20.9	21.4	21.3	21.7	22.1	21.1	21.6	21.5	22.0	22.4
6H	20.8	21.2	21.2	21.6	22.0	21.0	21.4	21.5	21.9	22.3
8H	20.7	21.0	21.2	21.5	22.0	21.0	21.3	21.5	21.8	22.2
Variations with the observer position at spacings:										
S = 1.0H	+ 2.9 / -12.4					+ 2.8 / -12.3				
1.5H	+ 5.6 / -12.2					+ 5.5 / -12.0				
2.0H	+ 4.0 / - 1.5					+ 5.6 / - 1.9				

CIE Pub.117 Corrected 1088 lm Total Lamp Luminous Flux.(8log(F/F0) = 0.3)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:

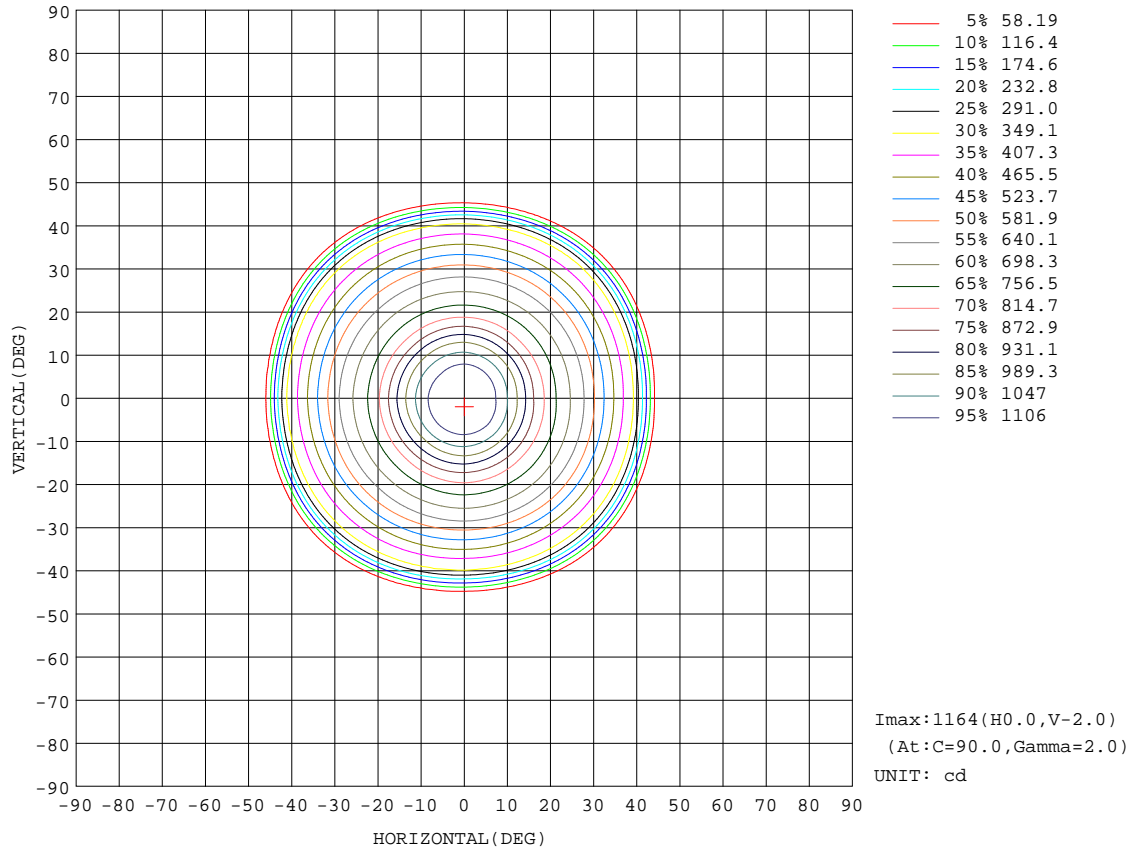
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	86	79	75	85	79	75	84	78	75	71
0.80	93	87	83	93	87	83	91	86	83	79
1.00	98	92	88	97	92	88	96	92	88	84
1.25	102	97	93	101	96	93	99	95	92	88
1.50	105	100	97	104	100	96	102	98	95	91
2.00	108	104	101	107	103	100	104	101	98	93
2.50	110	106	103	108	105	102	105	102	100	94
3.00	111	108	105	110	107	104	106	104	102	95
4.00	114	111	108	111	109	107	108	106	104	97
5.00	115	112	110	113	111	109	109	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:

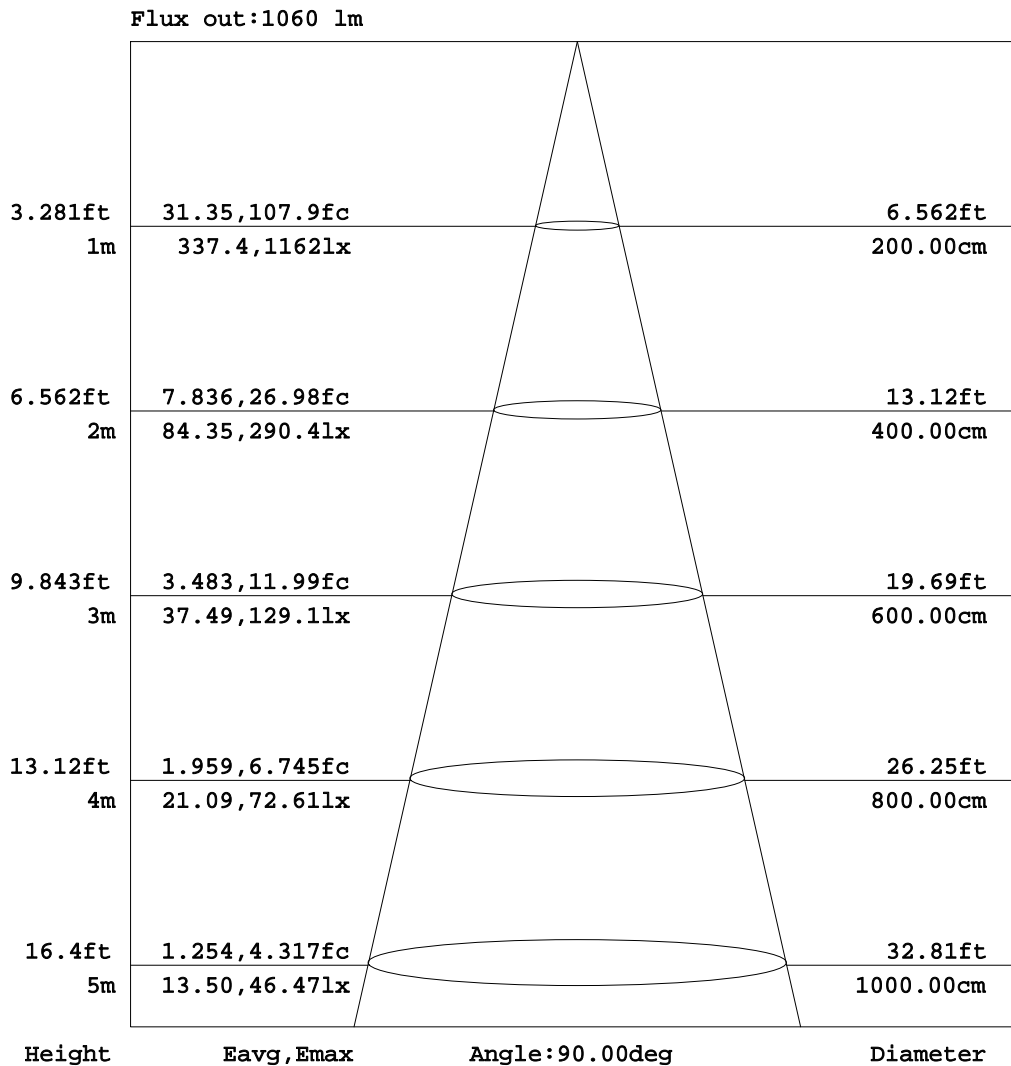


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-07-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:10.237m [K=1.0000]
Remarks:

AAI Figure

Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:



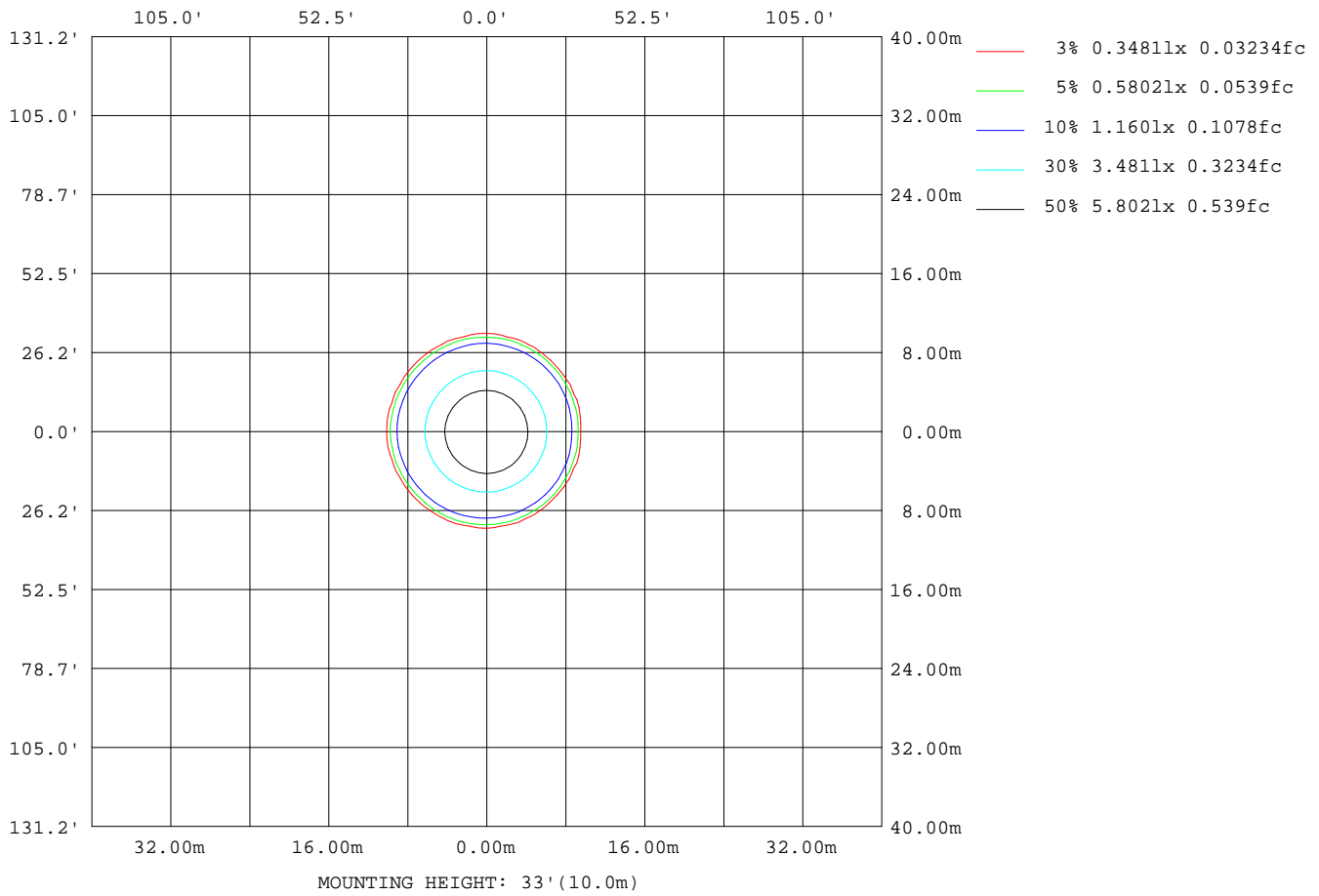
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

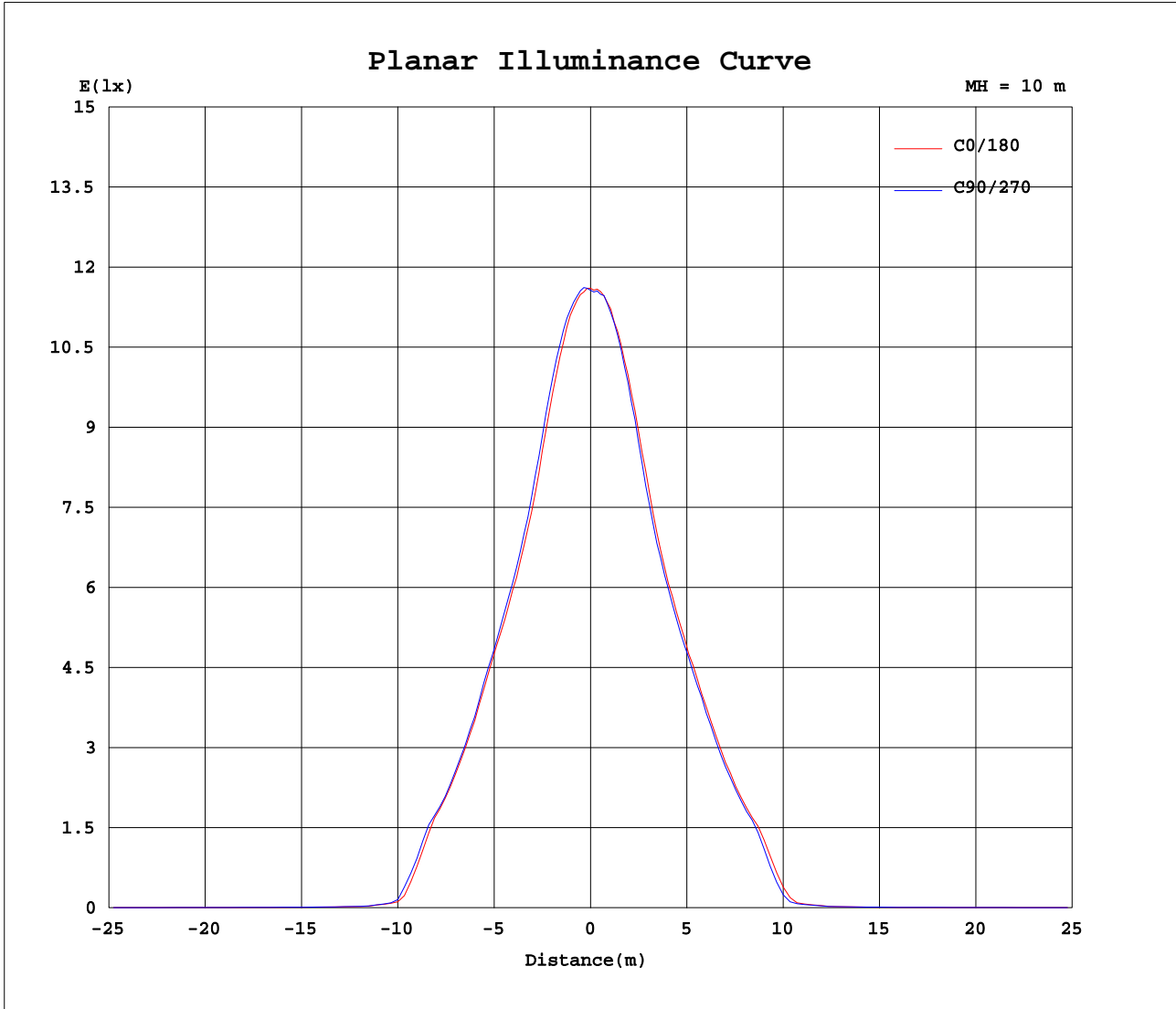
Test:U:240.9V I:0.0570A P:13.40W PF:0.9780 Lamp Flux:1088.33x1 lm		
NAME: LED-DL13WCOB-NW-B	TYPE:13W	WEIGHT:
DIM.:	SPEC.:4000K	SERIAL No.:
MFR.: EVERFINE	SUR.:0.0040	PROTECTION ANGLE:



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
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 Test Date:2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity:65.0%
 Test Distance:10.237m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.276
 Humidity: 65.0%
 Test Distance: 10.237m [K=1.0000]
 Remarks:

