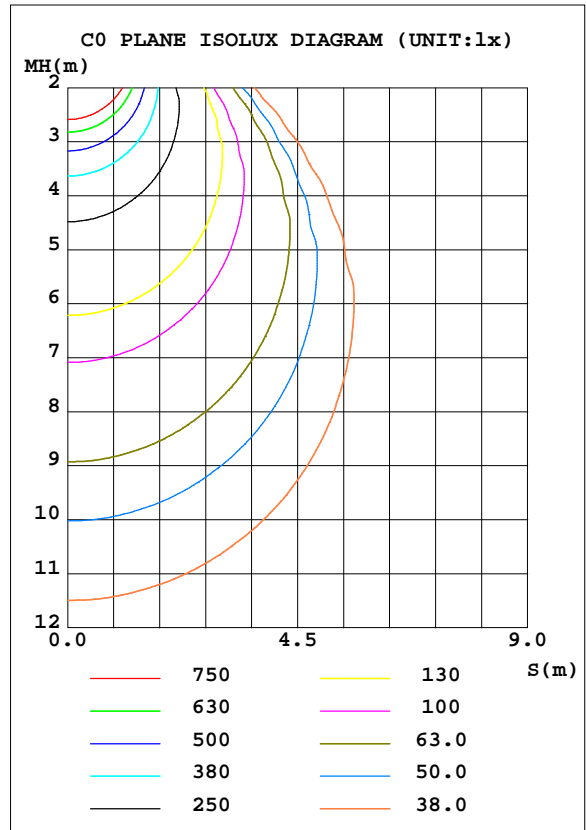
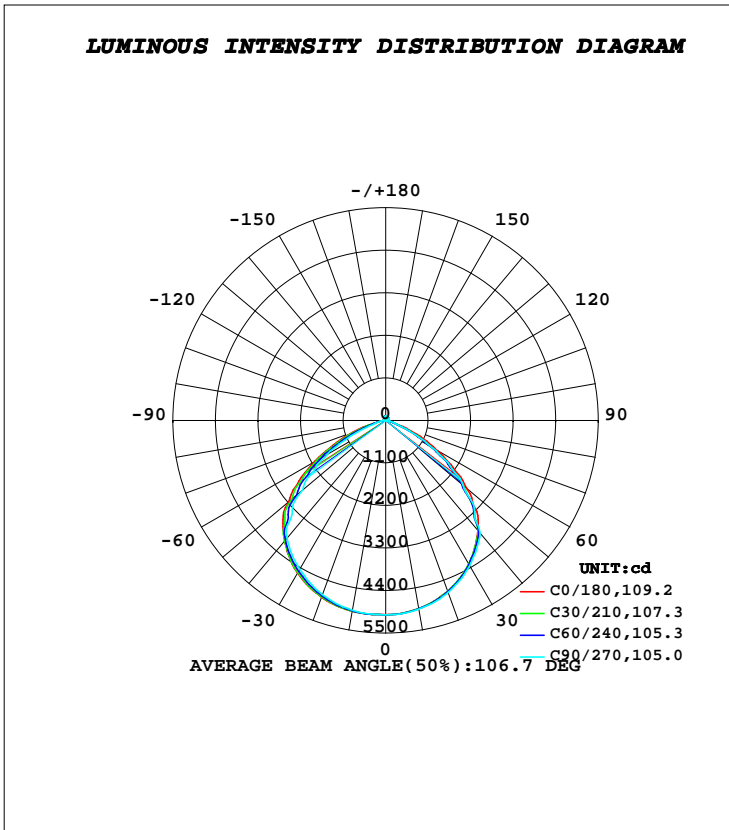


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.26 lm/W			
MODEL		I _{max} (cd)	5028	S/MH(C0/180)	1.27
NOMINAL POWER(W)	100	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	13113	η UP, DN(C0-180)	1.5,46.5
NOMINAL FLUX(lm)	13112.8	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.5,50.4
LAMPS INSIDE	1	η up(%)	3.1	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	96.9	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7300]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

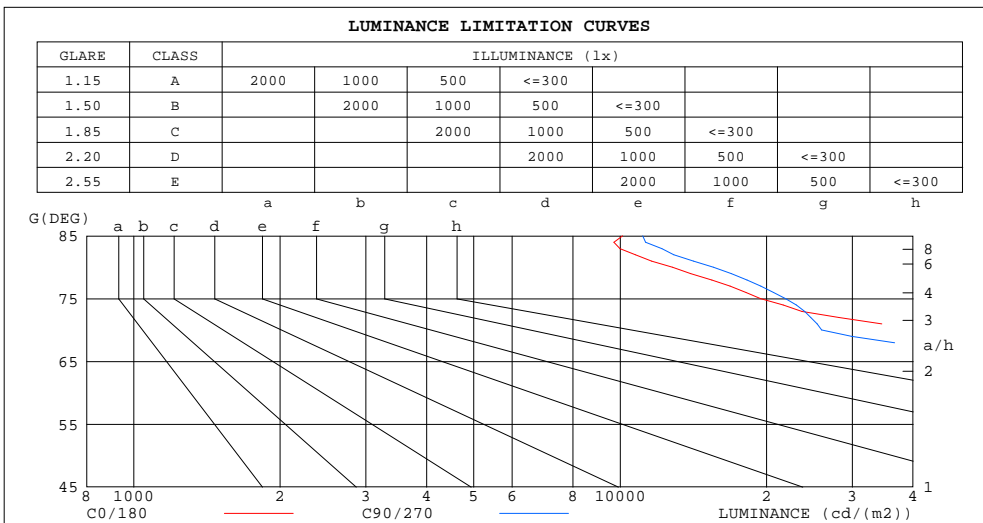
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp	
10	4939	4942	4954	4985	5011	5003	4983	4963	0- 10	477.4	477.4	3.64,3.64	
20	4699	4702	4728	4802	4863	4839	4790	4746	10- 20	1382	1859	14.2,14.2	
30	4295	4298	4340	4458	4558	4524	4448	4376	20- 30	2126	3985	30.4,30.4	
40	3710	3739	3806	3947	4066	4050	3976	3861	30- 40	2611	6596	50.3,50.3	
50	2740	2594	2620	2969	3276	3088	2816	2735	40- 50	2639	9235	70.4,70.4	
60	1491	1307	1332	1735	2111	1988	1747	1606	50- 60	2043	11279	86,86	
70	480.4	303.5	301.7	620.2	910.9	748.3	512.4	455.2	60- 70	1065	12343	94.1,94.1	
80	75.63	77.20	91.81	130.6	165.7	167.1	151.7	120.4	70- 80	300.2	12644	96.4,96.4	
90	28.07	25.57	25.87	31.14	36.20	35.25	32.62	30.43	80- 90	66.07	12710	96.9,96.9	
100	39.06	37.01	36.35	38.06	39.95	39.76	39.15	39.03	90-100	36.72	12746	97.2,97.2	
110	52.00	50.30	49.54	50.35	51.36	51.12	50.81	51.22	100-110	47.07	12793	97.6,97.6	
120	63.96	62.96	62.46	62.80	63.25	63.00	62.78	63.19	110-120	56.48	12850	98,98	
130	74.75	74.78	74.62	74.13	73.62	73.30	73.25	73.79	120-130	61.47	12911	98.5,98.5	
140	84.86	85.35	85.11	83.62	82.04	81.31	81.31	82.62	130-140	60.89	12972	98.9,98.9	
150	94.59	95.10	94.73	92.92	90.94	89.60	89.26	91.16	140-150	54.93	13027	99.3,99.3	
160	104.5	105.3	105.1	103.3	101.2	99.62	99.09	101.0	150-160	44.87	13072	99.7,99.7	
170	111.5	112.1	112.2	111.5	110.5	108.9	107.9	109.0	160-170	30.12	13102	99.9,99.9	
180	111.0	110.9	111.0	111.6	112.0	111.1	110.2	110.3	170-180	10.61	13113	100,100	
DEG	LUMINOUS INTENSITY:cd									UNIT:lm			

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-09-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7300]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	10116	11128
80	12810	15551
75	19445	21882
70	41314	25945
65	69255	52159
60	87688	78355
55	109696	103700
50	125380	119890
45	138718	134940

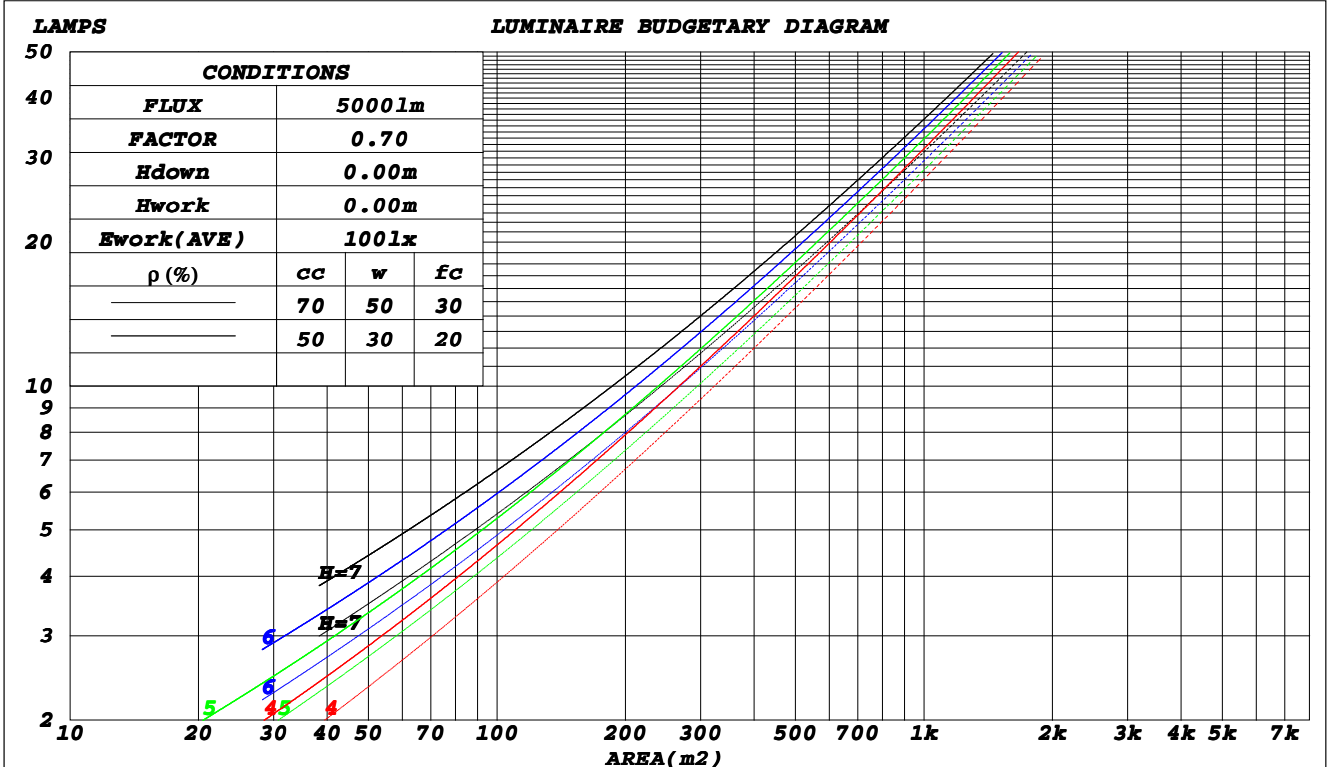
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7300]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw																
ρfc																
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.09	1.09	1.09	1.04	1.04	1.04	.99	.99	.99	.97
1.0	1.06	1.02	.99	1.03	.90	.97	.98	.96	.93	.94	.92	.90	.90	.88	.87	.85
2.0	.94	.88	.83	.91	.86	.81	.88	.83	.79	.84	.80	.77	.81	.77	.75	.73
3.0	.83	.76	.70	.81	.75	.69	.78	.72	.68	.75	.70	.66	.72	.68	.65	.62
4.0	.74	.66	.60	.73	.65	.59	.70	.63	.58	.67	.62	.57	.65	.60	.56	.54
5.0	.67	.58	.52	.65	.57	.52	.63	.56	.51	.61	.55	.50	.59	.53	.49	.47
6.0	.60	.52	.46	.59	.51	.45	.57	.50	.45	.55	.49	.44	.53	.48	.44	.41
7.0	.55	.46	.40	.54	.46	.40	.52	.45	.40	.50	.44	.39	.49	.43	.39	.37
8.0	.50	.42	.36	.49	.41	.36	.47	.41	.36	.46	.40	.35	.45	.39	.35	.33
9.0	.46	.38	.33	.45	.38	.32	.44	.37	.32	.42	.36	.32	.41	.36	.31	.30
10.0	.42	.35	.29	.42	.34	.29	.40	.34	.29	.39	.33	.29	.38	.33	.29	.27



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-09-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
 Humidity: 65.0%
 Test Distance: 8.000m [K=0.7300]
 Remarks:

WEC AND CCEC

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.262	.149	.047	.254	.145	.046	.239	.137	.044	.225	.130	.042	.213	.123	.040	
2.0	.254	.139	.043	.247	.136	.042	.234	.130	.040	.222	.125	.039	.211	.120	.038	
3.0	.241	.128	.038	.235	.126	.038	.224	.121	.037	.213	.117	.036	.203	.112	.035	
4.0	.227	.118	.035	.221	.116	.034	.211	.112	.033	.202	.108	.033	.193	.105	.032	
5.0	.213	.108	.031	.208	.107	.031	.199	.103	.030	.190	.100	.030	.182	.097	.029	
6.0	.200	.100	.029	.195	.099	.028	.187	.096	.028	.179	.093	.027	.172	.091	.027	
7.0	.187	.093	.026	.183	.091	.026	.176	.089	.026	.169	.087	.025	.163	.084	.025	
8.0	.176	.086	.024	.173	.085	.024	.166	.083	.024	.160	.081	.023	.154	.079	.023	
9.0	.166	.080	.022	.163	.079	.022	.157	.078	.022	.151	.076	.022	.146	.074	.021	
10.0	.157	.075	.021	.154	.074	.021	.149	.073	.020	.143	.071	.020	.138	.070	.020	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.214	.214	.214	.183	.183	.183	.125	.125	.125	.072	.072	.072	.023	.023	.023	
1.0	.201	.180	.162	.172	.155	.139	.117	.106	.096	.068	.062	.056	.022	.020	.018	
2.0	.191	.156	.126	.164	.134	.109	.112	.093	.076	.065	.054	.045	.021	.017	.015	
3.0	.183	.138	.102	.157	.119	.089	.108	.083	.062	.062	.048	.037	.020	.016	.012	
4.0	.175	.124	.086	.150	.108	.074	.103	.075	.052	.060	.044	.031	.019	.014	.010	
5.0	.168	.114	.074	.145	.099	.064	.100	.069	.045	.058	.040	.027	.019	.013	.009	
6.0	.162	.106	.065	.139	.091	.057	.096	.064	.040	.056	.038	.024	.018	.012	.008	
7.0	.155	.099	.059	.134	.086	.051	.092	.060	.036	.054	.035	.022	.017	.012	.007	
8.0	.149	.093	.054	.129	.081	.047	.089	.057	.034	.052	.033	.020	.017	.011	.007	
9.0	.144	.088	.050	.124	.076	.044	.086	.054	.031	.050	.032	.019	.016	.010	.006	
10.0	.138	.084	.047	.119	.073	.041	.083	.051	.029	.048	.030	.018	.016	.010	.006	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
 Humidity:65.0%
 Test Distance:8.000m [K=0.7300]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

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	28.4	29.7	28.7	30.0	30.3	28.1	29.4	28.4	29.7	29.9
3H	28.7	29.9	29.0	30.2	30.5	28.2	29.5	28.5	29.7	30.0
4H	28.6	29.8	29.0	30.1	30.4	28.2	29.4	28.5	29.7	30.0
6H	28.6	29.7	28.9	30.0	30.3	28.1	29.2	28.5	29.5	29.9
8H	28.5	29.6	28.9	29.9	30.3	28.1	29.1	28.5	29.5	29.8
12H	28.5	29.5	28.9	29.8	30.2	28.0	29.1	28.4	29.4	29.8
4H 2H	28.5	29.7	28.8	30.0	30.3	28.2	29.4	28.6	29.7	30.0
3H	28.8	29.8	29.2	30.2	30.5	28.4	29.4	28.8	29.7	30.1
4H	28.8	29.7	29.2	30.1	30.5	28.4	29.3	28.8	29.7	30.1
6H	28.7	29.6	29.2	30.0	30.4	28.4	29.2	28.8	29.6	30.0
8H	28.7	29.5	29.2	29.9	30.3	28.3	29.1	28.8	29.5	29.9
12H	28.7	29.4	29.1	29.8	30.3	28.3	29.0	28.8	29.4	29.9
8H 4H	28.7	29.4	29.1	29.9	30.3	28.3	29.0	28.7	29.5	29.9
6H	28.7	29.3	29.2	29.7	30.2	28.3	28.9	28.8	29.4	29.8
8H	28.6	29.2	29.1	29.7	30.2	28.3	28.8	28.8	29.3	29.8
12H	28.6	29.1	29.1	29.6	30.1	28.2	28.7	28.8	29.2	29.7
12H 4H	28.6	29.3	29.1	29.8	30.2	28.2	28.9	28.7	29.4	29.8
6H	28.6	29.2	29.1	29.6	30.2	28.2	28.8	28.8	29.3	29.8
8H	28.6	29.1	29.1	29.6	30.1	28.2	28.7	28.8	29.2	29.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.6 / - 0.7					+ 0.8 / - 0.9				
1.5H	+ 0.4 / - 0.7					+ 0.4 / - 0.6				
2.0H	+ 1.4 / - 1.8					+ 1.4 / - 2.0				

CIE Pub.117, 13113 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 8.9)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
 Humidity:65.0%
 Test Distance:8.000m [K=0.7300]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

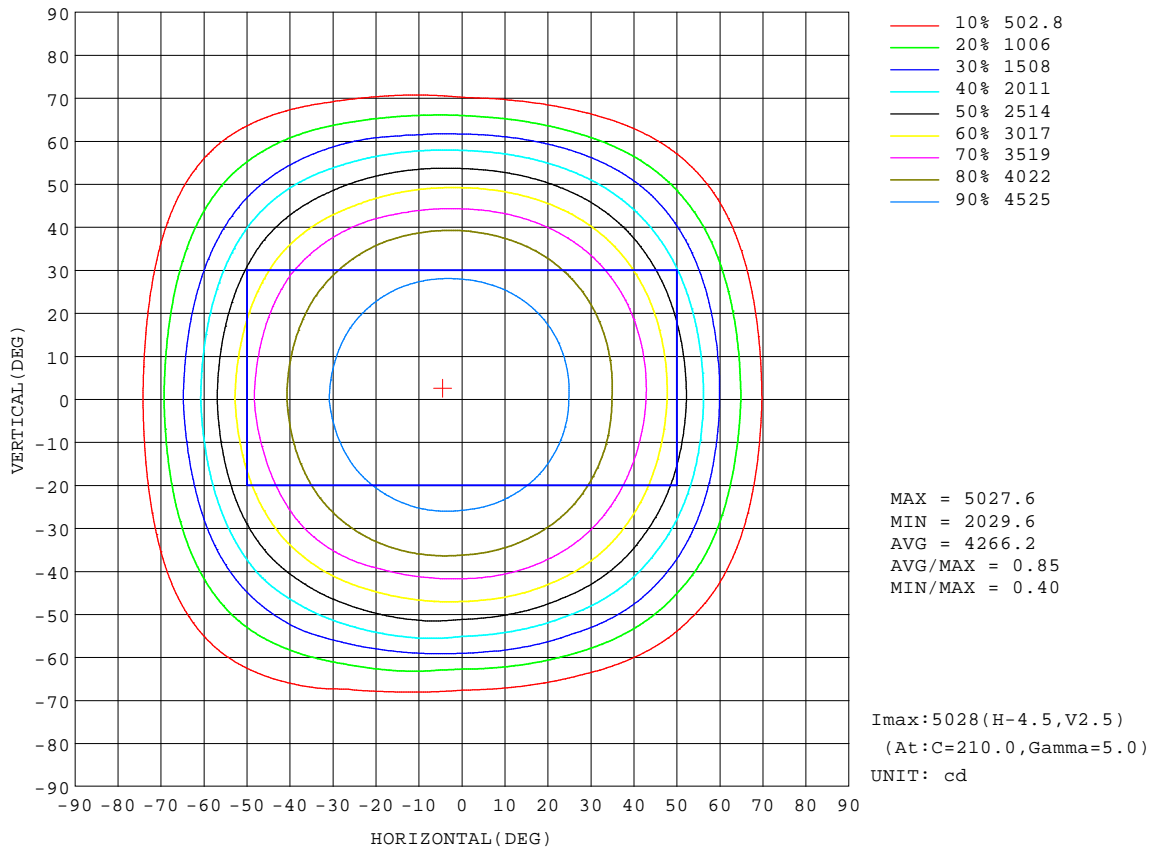
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	43	59	49	42	58	48	42	36
0.80	71	60	53	70	59	53	68	58	52	46
1.00	79	69	63	78	69	62	76	70	62	55
1.25	87	77	71	85	76	70	82	75	69	62
1.50	91	83	76	90	82	76	86	80	74	67
2.00	98	90	85	96	89	84	92	86	82	74
2.50	101	94	89	99	93	88	95	90	86	77
3.00	104	98	93	102	96	92	97	93	90	81
4.00	107	103	99	105	101	97	100	97	94	85
5.00	110	105	102	107	103	100	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity:65.0%
Test Distance:8.000m [K=0.7300]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		



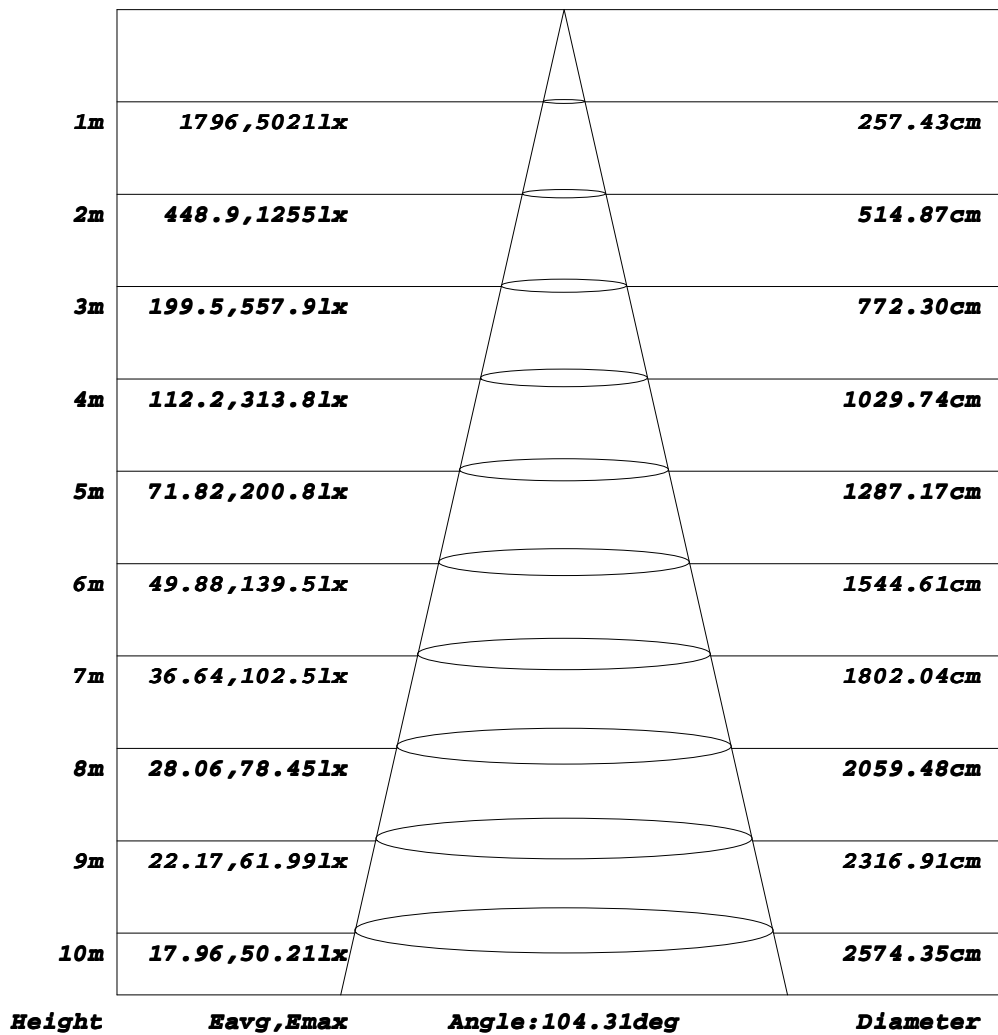
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7300]
Remarks:

AAI Figure

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

Flux out:9934 lm



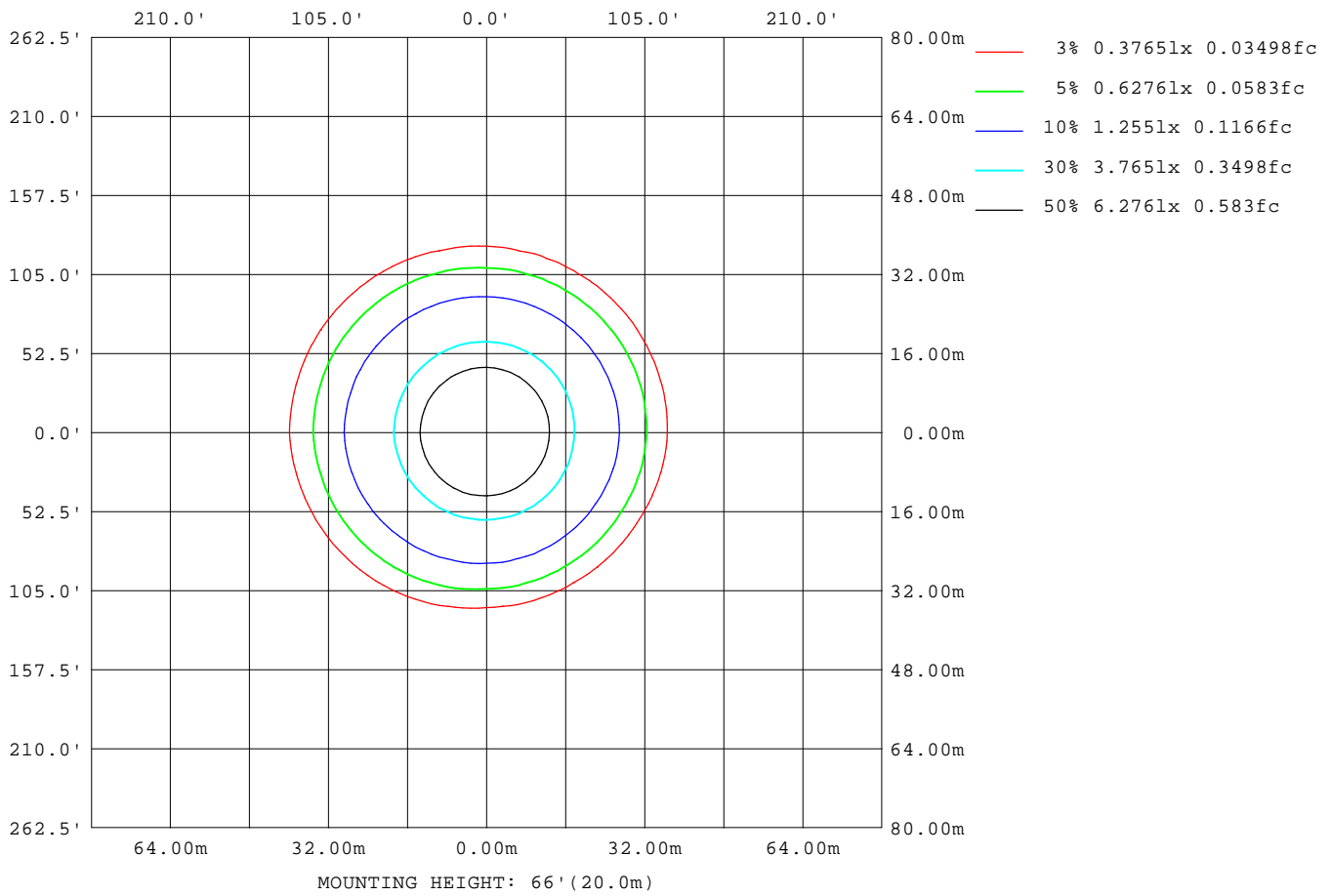
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7300]
Remarks:

ISOLUX DIAGRAM

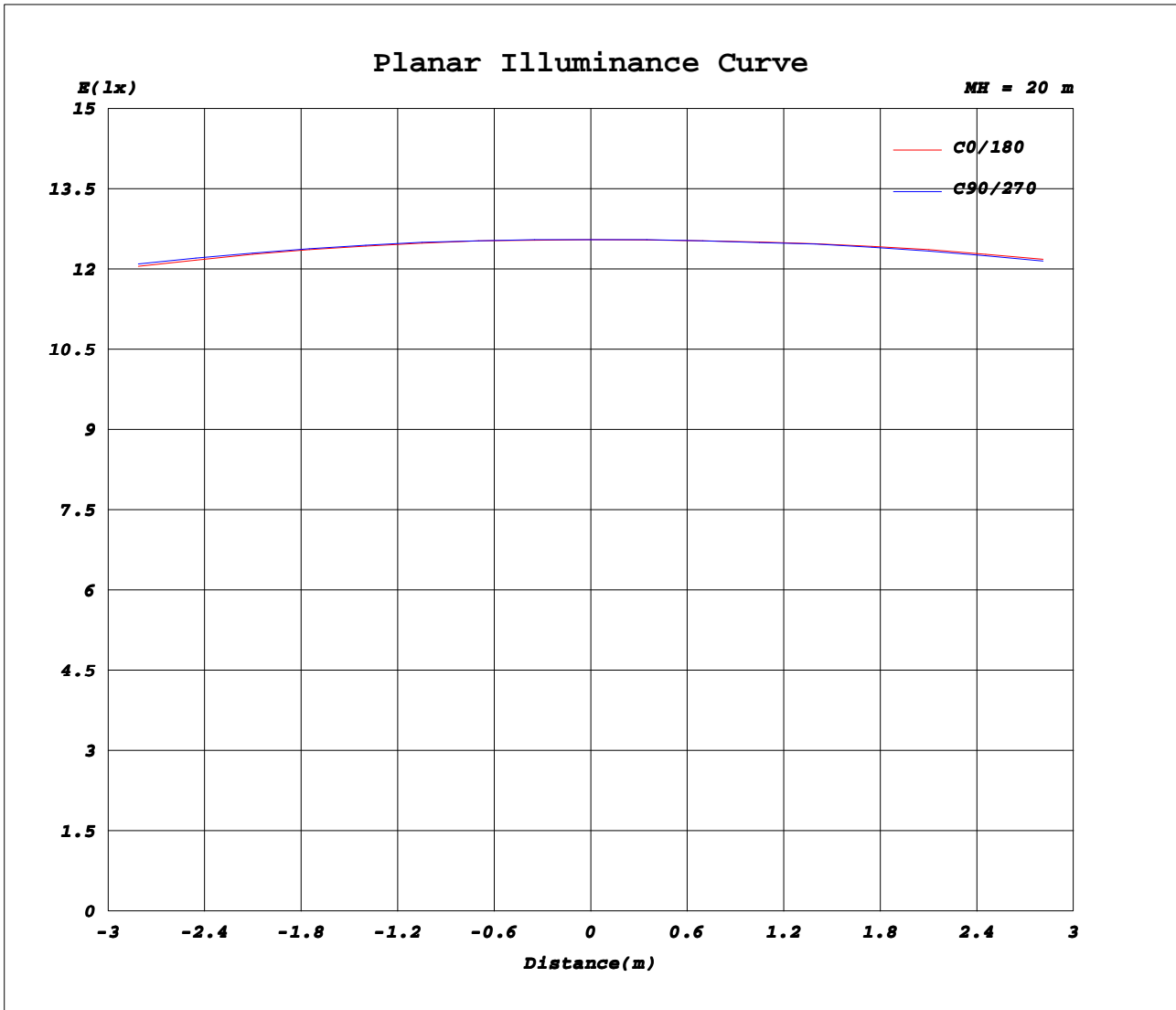
Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7300]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7300]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.90V I:0.4720A P:99.900W PF:0.9570 Freq:50.00Hz Lamp Flux:13112.8x1 lm		
NAME: LN-FLHL100	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	5021	5021	5021	5021	5021	5021	5021	5021	5021	5021	5021	5021							
5	5002	5004	5006	5010	5017	5023	5028	5028	5026	5022	5016	5010							
10	4939	4940	4945	4954	4975	4996	5011	5008	4998	4983	4970	4956							
15	4836	4838	4847	4864	4898	4931	4957	4952	4935	4911	4889	4864							
20	4699	4697	4707	4728	4777	4826	4863	4852	4826	4790	4761	4731							
25	4519	4515	4527	4555	4620	4684	4733	4719	4685	4637	4600	4560							
30	4295	4290	4305	4340	4419	4498	4558	4544	4504	4448	4401	4350							
35	4015	4021	4046	4091	4181	4270	4338	4330	4291	4230	4170	4098							
40	3710	3723	3755	3806	3901	3994	4066	4067	4034	3976	3906	3817							
45	3335	3237	3207	3244	3422	3612	3761	3690	3565	3426	3368	3338							
50	2740	2614	2573	2620	2848	3090	3276	3174	3002	2816	2747	2722							
55	2139	2008	1968	2022	2271	2535	2739	2639	2463	2267	2185	2143							
60	1491	1334	1280	1332	1593	1878	2111	2056	1919	1747	1649	1563							
65	995	804	721	749	996	1270	1493	1409	1251	1074	1009	983							
70	480	334	273	302	508	733	911	823	674	512	460	450							
75	171	155	162	193	274	357	419	393	341	277	237	202							
80	75.6	74.5	79.9	91.8	117	144	166	170	165	152	133	108							
85	30.0	26.3	27.3	33.0	48.3	64.5	77.9	78.4	73.7	65.2	55.9	44.1							
90	28.1	25.9	25.2	25.9	29.3	33.0	36.2	35.9	34.6	32.6	31.2	29.7							
95	33.2	31.5	30.6	30.6	32.2	34.0	35.6	35.6	35.2	34.4	34.0	33.6							
100	39.1	37.5	36.6	36.4	37.4	38.7	40.0	39.9	39.6	39.2	39.0	39.0							
105	45.6	44.1	43.1	42.8	43.5	44.4	45.3	45.3	45.0	44.8	44.9	45.2							
110	52.0	50.7	49.9	49.5	50.0	50.7	51.4	51.2	51.0	50.8	51.0	51.4							
115	58.1	57.1	56.4	56.0	56.4	56.9	57.4	57.2	57.0	56.9	57.1	57.5							
120	64.0	63.2	62.7	62.5	62.6	63.0	63.2	63.1	62.9	62.8	63.0	63.4							
125	69.2	68.9	68.6	68.5	68.6	68.7	68.8	68.6	68.4	68.3	68.4	68.8							
130	74.7	74.8	74.8	74.6	74.3	74.0	73.6	73.4	73.2	73.2	73.5	74.0							
135	79.9	80.3	80.4	80.2	79.4	78.5	77.7	77.4	77.3	77.4	78.0	78.8							
140	84.9	85.3	85.4	85.1	84.2	83.1	82.0	81.4	81.2	81.3	82.0	83.2							
145	89.6	90.0	90.1	89.7	88.7	87.5	86.3	85.4	85.0	85.0	85.9	87.4							
150	94.6	95.1	95.1	94.7	93.6	92.3	90.9	89.9	89.3	89.3	90.3	92.0							
155	99.4	100	100	99.9	98.7	97.3	95.9	94.8	94.1	94.0	95.0	96.8							
160	104	105	105	105	104	103	101	100	99.2	99.1	100	102							
165	108	109	110	109	109	107	106	105	104	104	104	106							
170	111	112	112	112	112	111	111	109	108	108	108	110							
175	112	111	112	112	112	112	113	112	111	110	110	110							
180	111	111	111	111	111	112	112	111	111	110	110	110							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.11
Humidity: 65.0%
Test Distance: 8.000m [K=0.7300]
Remarks: