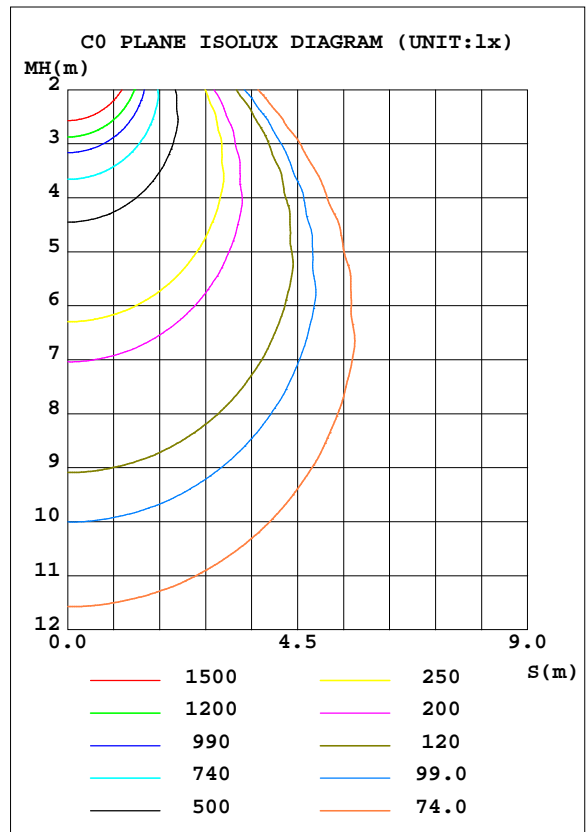
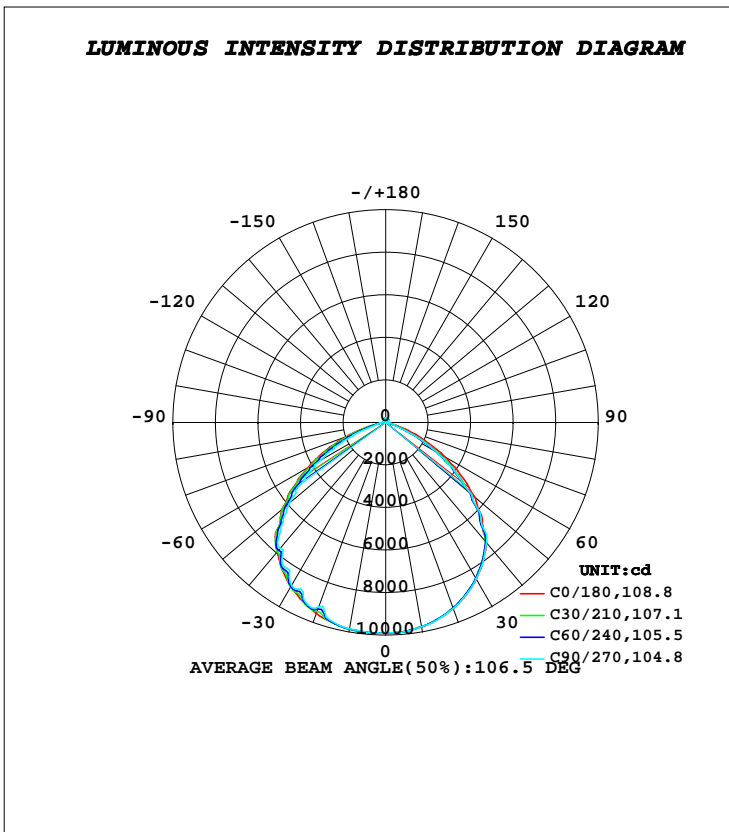


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		

DATA OF LAMP		PHOTOMETRIC DATA Eff: 130.78 lm/W			
MODEL		I _{max} (cd)	9913	S/MH(C0/180)	1.27
NOMINAL POWER(W)	200	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	25959	η UP, DN(C0-180)	1.4, 46.5
NOMINAL FLUX(lm)	25958.9	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.4, 50.8
LAMPS INSIDE	1	η up(%)	2.8	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	97.2	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-26

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=0.7262]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

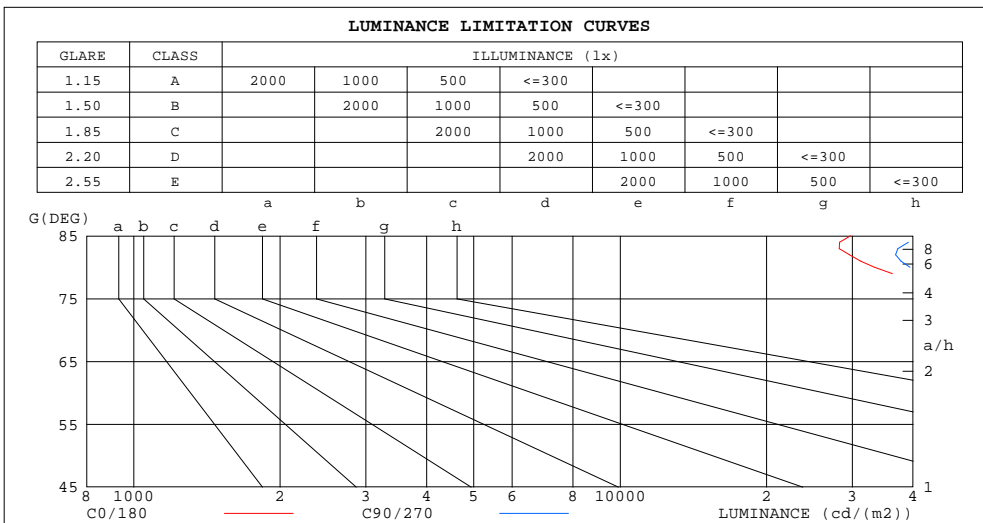
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	9765	9746	9754	9810	9866	9867	9846	9813	0- 10	941.3	941.3	3.63,3.63
20	9305	9276	9302	9441	9545	9394	9224	9220	10- 20	2717	3659	14.1,14.1
30	8514	8464	8506	8711	8910	8924	8854	8715	20- 30	4181	7840	30.2,30.2
40	7378	7315	7378	7678	7952	7890	7726	7566	30- 40	5111	12951	49.9,49.9
50	5502	5231	5262	5835	6382	6236	5919	5705	40- 50	5174	18125	69.8,69.8
60	3146	2743	2749	3491	4195	3934	3475	3267	50- 60	4063	22188	85.5,85.5
70	1143	649.3	583.9	1270	1954	1755	1377	1222	60- 70	2242	24430	94.1,94.1
80	150.4	152.6	177.9	244.7	309.2	330.3	318.2	253.8	70- 80	660.1	25090	96.7,96.7
90	52.57	47.93	49.21	58.51	72.51	96.75	111.9	93.15	80- 90	147.1	25237	97.2,97.2
100	72.26	69.54	68.48	70.24	72.19	71.27	70.17	70.76	90-100	71.29	25309	97.5,97.5
110	94.74	93.48	92.56	92.14	91.86	91.16	90.96	92.33	100-110	85.93	25395	97.8,97.8
120	113.7	114.0	113.8	112.7	111.5	110.8	110.7	111.8	110-120	101.6	25496	98.2,98.2
130	131.8	133.5	133.6	130.9	128.0	127.2	127.4	129.1	120-130	108.8	25605	98.6,98.6
140	149.4	151.4	151.1	147.0	142.4	140.3	140.2	143.5	130-140	106.7	25712	99,99
150	167.3	169.2	168.5	163.7	158.3	154.9	154.2	158.8	140-150	96.18	25808	99.4,99.4
160	185.8	187.3	186.6	182.2	177.2	173.5	172.4	177.1	150-160	78.83	25887	99.7,99.7
170	200.2	199.2	198.2	197.3	196.2	192.9	190.9	194.0	160-170	53.22	25940	99.9,99.9
180	203.9	202.5	202.0	203.1	204.2	202.7	201.3	202.0	170-180	19.00	25959	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:2020-09-26

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=0.7262]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	29768	43604
80	33315	39400
75	53992	50659
70	128549	65661
65	188348	144511
60	241996	211469
55	287847	264456
50	329196	314855
45	349484	344477

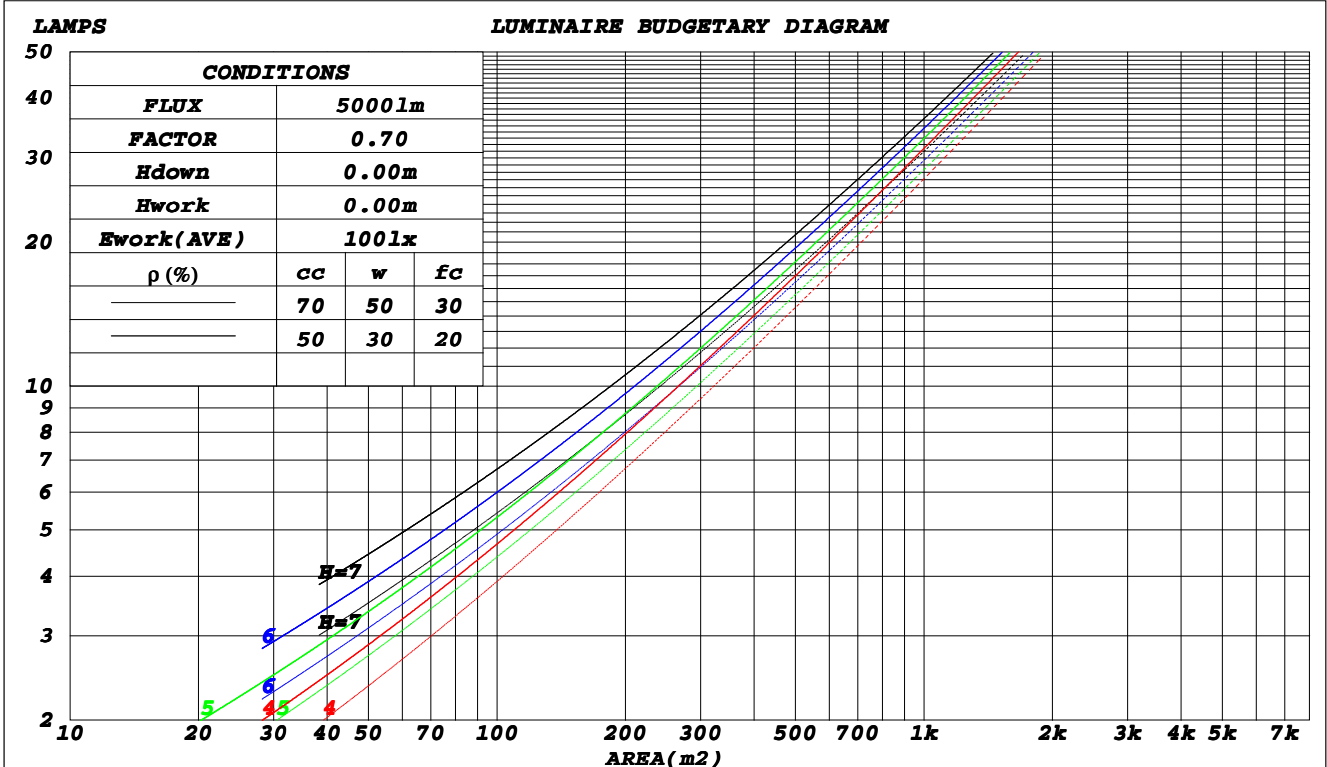
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-26

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=0.7262]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	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						Coefficients of Utilization(CU)									
0.0	1.18	1.18	1.18	1.15	1.15	1.15	1.10	1.10	1.10	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	.93	.87	.82	.91	.86	.81	.87	.83	.79	.84	.80	.77	.80	.77	.75	.72
3.0	.83	.75	.70	.81	.74	.69	.78	.72	.67	.75	.70	.66	.72	.68	.64	.62
4.0	.74	.66	.60	.72	.65	.59	.70	.63	.58	.67	.61	.57	.65	.60	.56	.54
5.0	.66	.58	.52	.65	.57	.51	.63	.56	.50	.60	.54	.50	.58	.53	.49	.47
6.0	.60	.51	.45	.59	.51	.45	.57	.50	.44	.55	.49	.44	.53	.48	.43	.41
7.0	.54	.46	.40	.53	.45	.40	.52	.45	.39	.50	.44	.39	.48	.43	.39	.37
8.0	.50	.41	.36	.49	.41	.36	.47	.40	.35	.46	.40	.35	.44	.39	.35	.33
9.0	.46	.38	.32	.45	.37	.32	.43	.37	.32	.42	.36	.32	.41	.35	.31	.29
10.0	.42	.34	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.38	.32	.28	.27



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2020-09-26

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=0.7262]
 Remarks:

WEC AND CCEC

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	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	.265	.151	.048	.257	.147	.047	.242	.139	.044	.229	.132	.042	.217	.126	.040	
2.0	.257	.141	.043	.250	.138	.042	.237	.132	.041	.225	.126	.040	.214	.121	.038	
3.0	.243	.129	.039	.237	.127	.038	.226	.122	.037	.215	.118	.036	.206	.114	.035	
4.0	.228	.119	.035	.223	.117	.035	.213	.113	.034	.204	.109	.033	.195	.106	.032	
5.0	.214	.109	.032	.209	.107	.031	.200	.104	.031	.192	.101	.030	.184	.098	.030	
6.0	.201	.101	.029	.196	.099	.029	.188	.096	.028	.181	.094	.028	.173	.091	.027	
7.0	.188	.093	.026	.184	.092	.026	.177	.090	.026	.170	.087	.025	.164	.085	.025	
8.0	.177	.086	.024	.174	.085	.024	.167	.083	.024	.161	.081	.023	.155	.079	.023	
9.0	.167	.081	.023	.164	.080	.022	.158	.078	.022	.152	.076	.022	.147	.074	.022	
10.0	.157	.076	.021	.155	.075	.021	.149	.073	.021	.144	.072	.020	.139	.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																
1.0	.212	.212	.212	.181	.181	.181	.123	.123	.123	.071	.071	.071	.023	.023	.023	
2.0	.189	.154	.124	.162	.132	.107	.111	.091	.075	.064	.053	.044	.021	.017	.014	
3.0	.181	.136	.100	.155	.117	.086	.107	.081	.061	.062	.048	.036	.020	.015	.012	
4.0	.173	.122	.083	.149	.106	.072	.102	.074	.051	.059	.043	.030	.019	.014	.010	
5.0	.166	.112	.071	.143	.097	.062	.098	.068	.044	.057	.040	.026	.018	.013	.009	
6.0	.160	.103	.063	.137	.089	.055	.095	.063	.039	.055	.037	.023	.018	.012	.008	
7.0	.153	.096	.057	.132	.084	.049	.091	.059	.035	.053	.035	.021	.017	.011	.007	
8.0	.147	.091	.052	.127	.079	.045	.088	.055	.032	.051	.033	.019	.017	.011	.006	
9.0	.142	.086	.048	.122	.074	.042	.085	.052	.030	.049	.031	.018	.016	.010	.006	
10.0	.136	.082	.045	.118	.071	.039	.082	.050	.028	.048	.029	.017	.015	.010	.006	

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-26

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=0.7262]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	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	31.8	33.2	32.1	33.4	33.6	31.4	32.8	31.7	33.0	33.3
3H	32.2	33.5	32.5	33.7	34.0	31.6	32.8	31.9	33.1	33.4
4H	32.2	33.4	32.5	33.7	34.0	31.5	32.7	31.9	33.0	33.3
6H	32.1	33.2	32.5	33.5	33.9	31.5	32.6	31.8	32.9	33.2
8H	32.1	33.1	32.4	33.5	33.8	31.4	32.5	31.8	32.8	33.2
12H	32.0	33.0	32.4	33.4	33.7	31.4	32.4	31.8	32.7	33.1
4H 2H	31.9	33.1	32.2	33.4	33.7	31.6	32.8	31.9	33.1	33.4
3H	32.4	33.4	32.7	33.7	34.1	31.8	32.8	32.1	33.1	33.5
4H	32.3	33.3	32.8	33.6	34.0	31.7	32.7	32.2	33.0	33.4
6H	32.3	33.1	32.7	33.5	33.9	31.7	32.5	32.1	32.9	33.3
8H	32.3	33.0	32.7	33.4	33.9	31.7	32.4	32.1	32.9	33.3
12H	32.2	32.9	32.7	33.4	33.8	31.7	32.4	32.1	32.8	33.2
8H 4H	32.2	33.0	32.7	33.4	33.9	31.6	32.4	32.1	32.8	33.3
6H	32.2	32.8	32.7	33.3	33.8	31.6	32.3	32.1	32.7	33.2
8H	32.2	32.7	32.7	33.2	33.7	31.6	32.2	32.1	32.6	33.2
12H	32.2	32.6	32.7	33.1	33.7	31.6	32.1	32.1	32.6	33.1
12H 4H	32.2	32.9	32.7	33.3	33.8	31.6	32.3	32.1	32.7	33.2
6H	32.2	32.7	32.7	33.2	33.7	31.6	32.1	32.1	32.6	33.1
8H	32.1	32.6	32.7	33.1	33.6	31.6	32.1	32.1	32.6	33.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.6					+ 0.8 / - 0.9				
1.5H	+ 0.3 / - 0.5					+ 0.4 / - 0.6				
2.0H	+ 1.1 / - 1.7					+ 1.2 / - 1.9				

CIE Pub.117, 25959 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 11.3)

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:DAMIN
 Test Date:2020-09-26

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=0.7262]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		

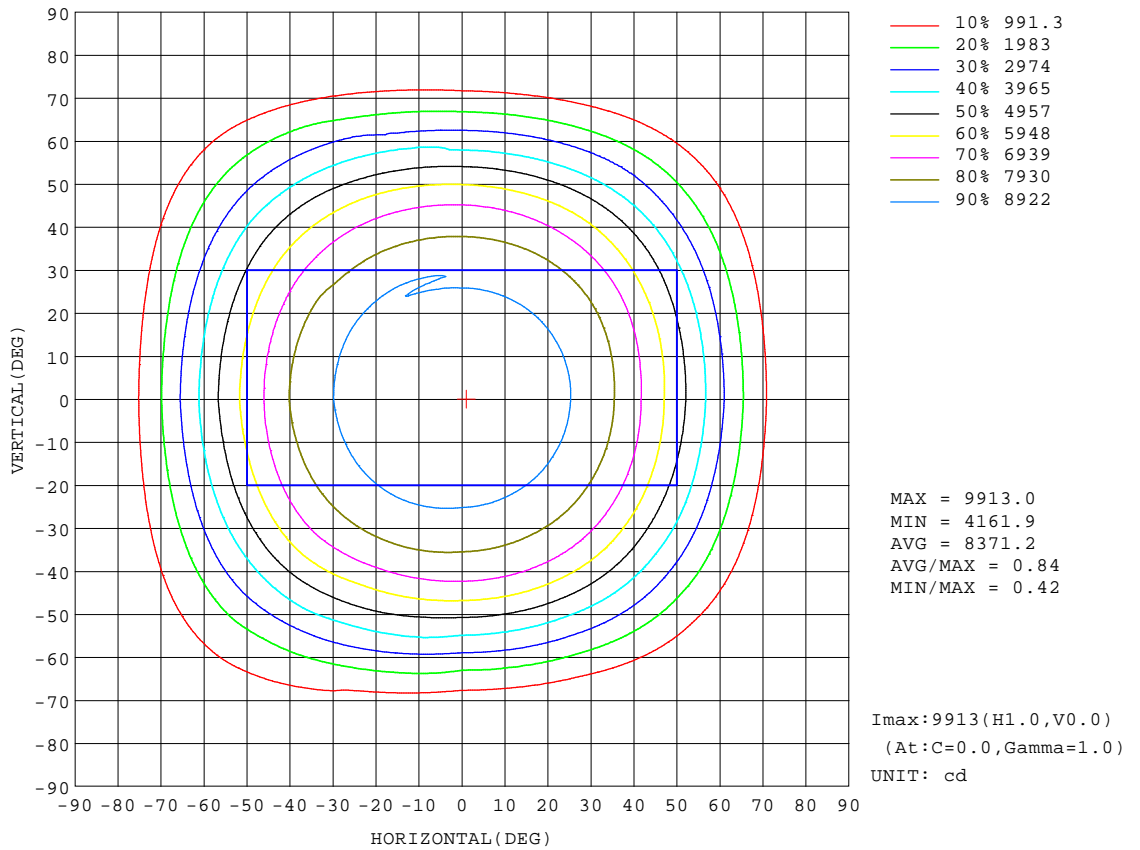
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	49	42	59	49	42	58	48	42	36
0.80	70	60	53	69	59	53	67	58	52	45
1.00	79	69	62	78	68	62	76	69	61	54
1.25	86	77	70	85	76	70	82	74	69	62
1.50	91	82	76	89	81	75	86	79	74	67
2.00	98	90	84	96	89	83	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	89	81
4.00	107	102	98	105	101	97	100	97	94	85
5.00	109	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:2020-09-26

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=0.7262]
Remarks:

ISOCANDELA DIAGRAM

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		



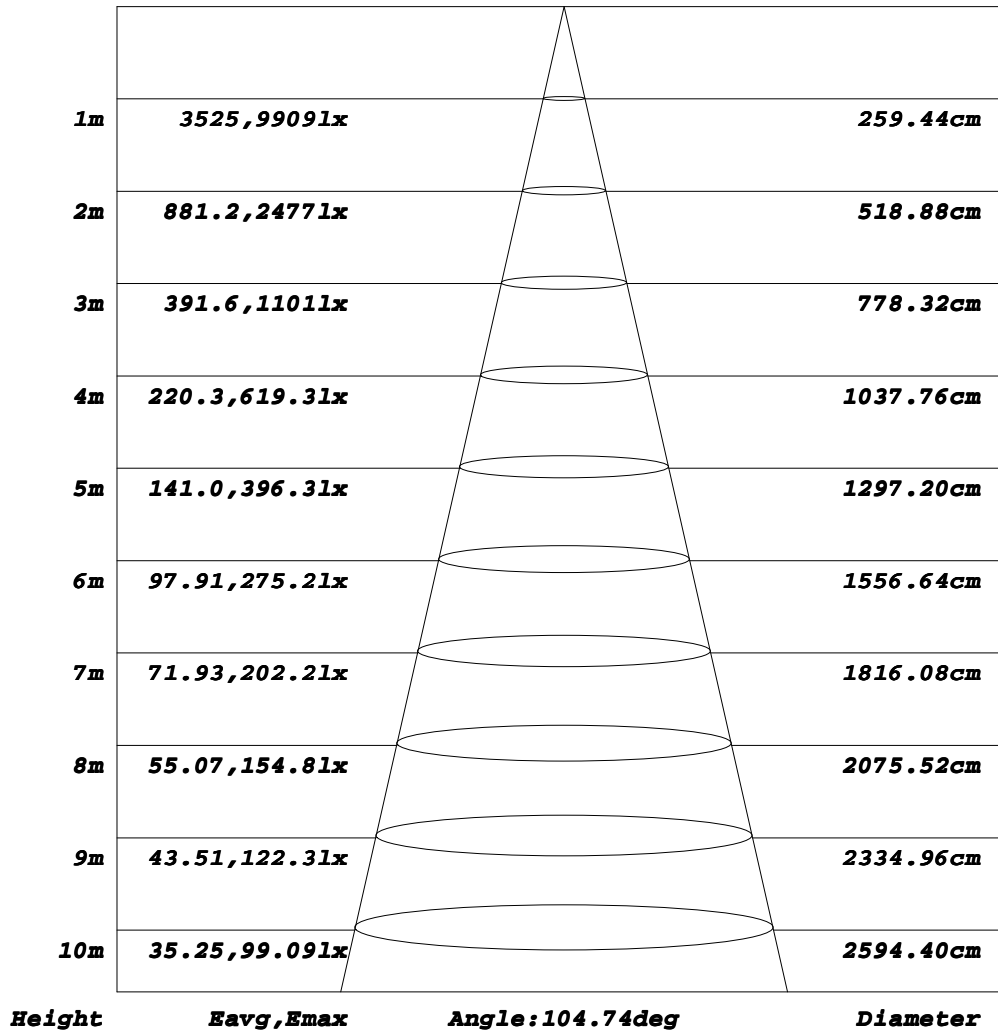
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2020-09-26

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=0.7262]
Remarks:

AAI Figure

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		

Flux out:19500 lm



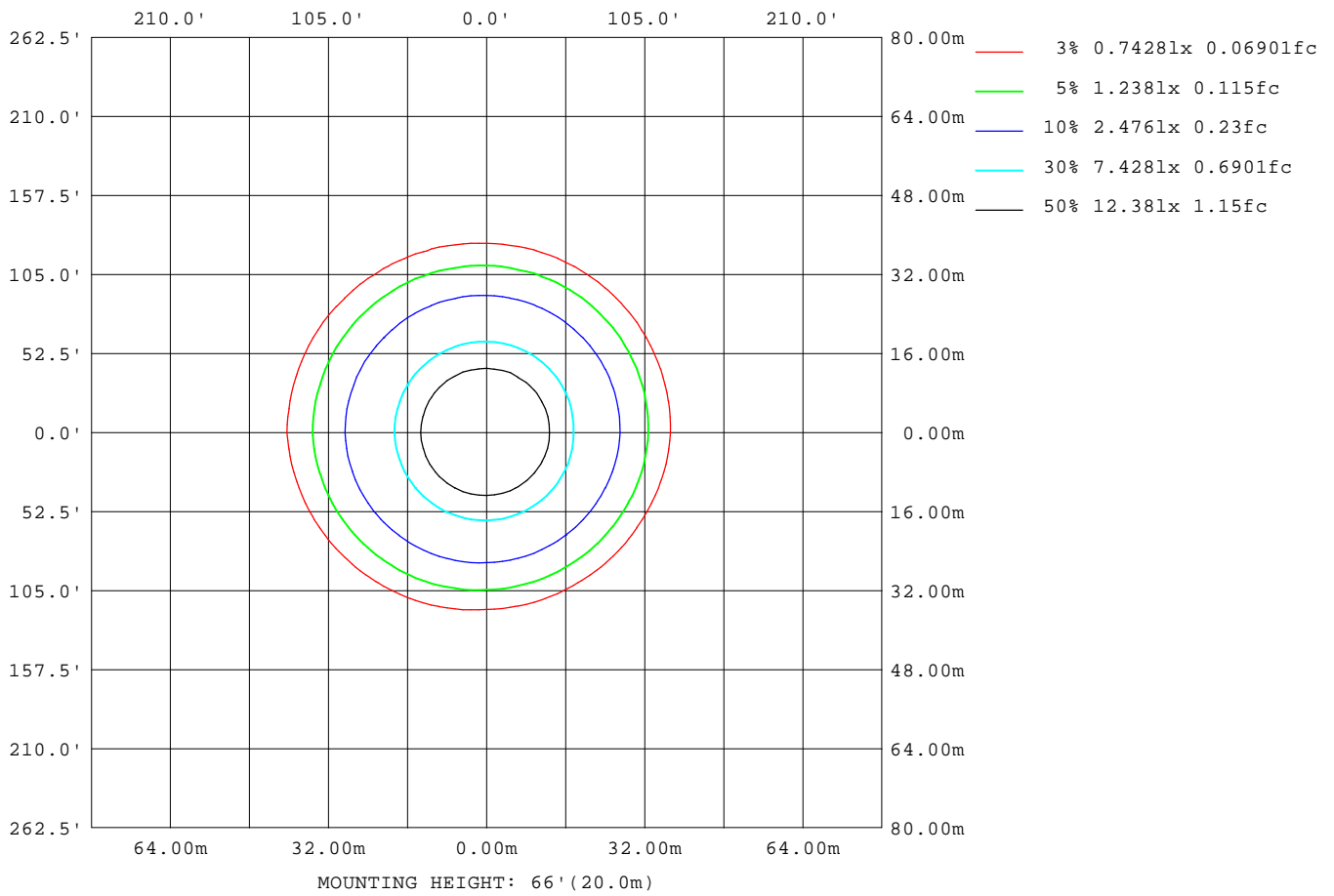
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-26

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=0.7262]
Remarks:

ISOLUX DIAGRAM

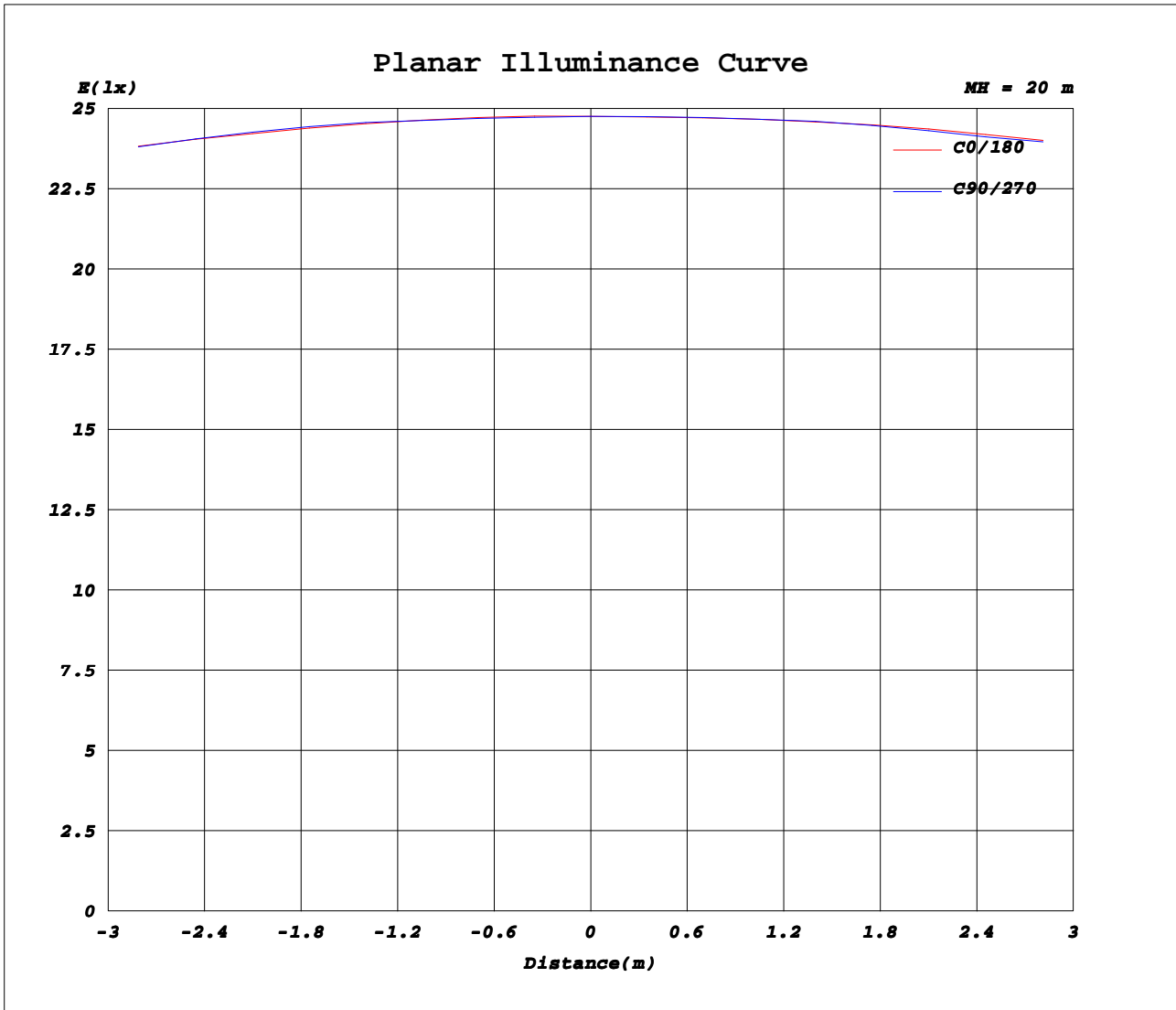
Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-26

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=0.7262]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-26

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=0.7262]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:220.90V I:0.9220A P:198.50W PF:0.9740 Freq:50.00Hz Lamp Flux:25958.9x1 Lm		
NAME: LN-FLHL200	TYPE:LED	
MFR.:		

Table--1

UNIT: cd

C (DEG) \ γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330							
0	9905	9905	9905	9905	9905	9905	9905	9905	9905	9905	9905	9905							
5	9868	9873	9880	9886	9896	9905	9911	9912	9909	9903	9894	9883							
10	9765	9748	9744	9754	9790	9831	9866	9871	9863	9846	9826	9799							
15	9569	9554	9556	9575	9629	9687	9735	9736	9720	9690	9658	9618							
20	9305	9277	9276	9302	9396	9487	9545	9453	9335	9224	9207	9234							
25	8946	8905	8902	8937	9049	9170	9270	9262	9219	9151	9092	9024							
30	8514	8466	8463	8506	8639	8784	8910	8934	8913	8854	8772	8659							
35	7988	7935	7936	7990	8155	8331	8477	8469	8407	8309	8219	8112							
40	7378	7315	7315	7378	7574	7782	7952	7932	7848	7726	7624	7508							
45	6425	6274	6244	6333	6662	7021	7322	7302	7176	6984	6822	6636							
50	5502	5271	5191	5262	5630	6040	6382	6323	6149	5919	5775	5636							
55	4293	3987	3871	3944	4390	4887	5297	5188	4942	4643	4492	4375							
60	3146	2809	2677	2749	3225	3756	4195	4069	3798	3475	3322	3212							
65	2070	1690	1530	1588	2076	2624	3075	2921	2619	2276	2141	2072							
70	1143	743	556	584	1018	1523	1954	1865	1645	1377	1261	1183							
75	363	277	270	341	584	835	1025	919	737	534	442	385							
80	150	148	157	178	221	268	309	328	332	318	282	226							
85	67.5	76.2	86.6	98.8	115	131	146	161	171	170	150	116							
90	52.6	48.5	47.4	49.2	54.6	62.5	72.5	89.5	104	112	103	83.3							
95	61.6	59.0	57.8	57.8	60.4	63.4	66.0	65.4	64.0	62.4	61.8	61.6							
100	72.3	70.2	68.9	68.5	69.5	70.9	72.2	71.7	70.9	70.2	70.4	71.1							
105	83.7	82.1	81.0	80.4	80.6	81.1	81.5	81.0	80.5	80.3	80.9	82.1							
110	94.7	93.8	93.1	92.6	92.2	92.0	91.9	91.3	91.0	91.0	91.7	93.0							
115	104	104	104	103	103	102	102	101	101	101	102	103							
120	114	114	114	114	113	112	111	111	111	111	111	112							
125	123	124	124	124	123	121	120	120	119	120	120	121							
130	132	133	134	134	132	130	128	127	127	127	128	130							
135	141	143	143	143	141	138	135	134	133	134	135	138							
140	149	151	152	151	149	145	142	141	140	140	142	145							
145	158	160	160	159	157	153	150	148	146	147	149	153							
150	167	169	169	168	165	162	158	156	154	154	157	161							
155	177	178	178	178	175	171	167	165	163	163	165	170							
160	186	187	187	187	184	181	177	174	173	172	175	179							
165	194	195	195	194	192	189	187	184	183	182	184	188							
170	200	200	199	198	198	197	196	194	192	191	192	196							
175	203	202	201	201	201	201	201	200	198	198	198	200							
180	204	203	202	202	203	204	204	203	202	201	202	202							

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2020-09-26

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=0.7262]
Remarks: