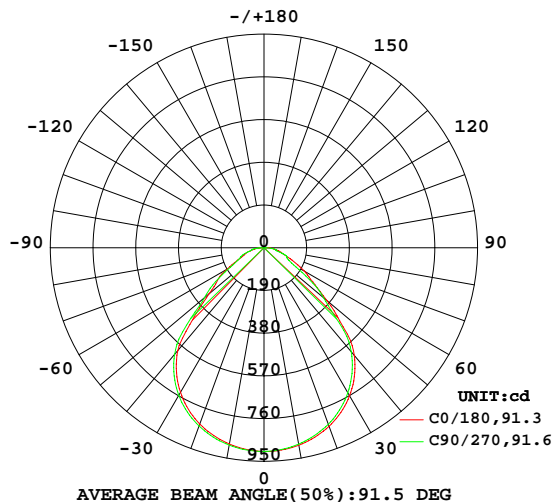


LUMINAIRE PHOTOMETRIC TEST REPORT

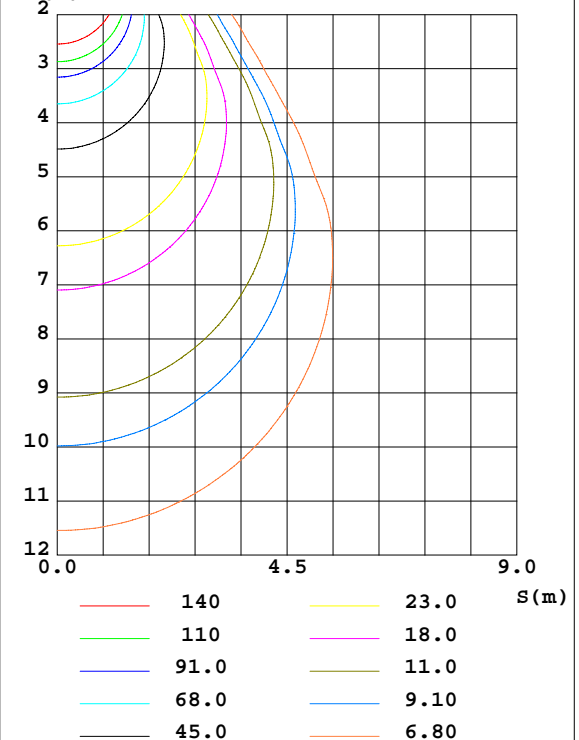
Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.28 lm/W			
MODEL		Imax(cd)	906.3	S/MH(C0/180)	1.22
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	1962.1	η UP,DN(C0-180)	0.0,49.7
NOMINAL FLUX(lm)	1962.13	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230.0	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

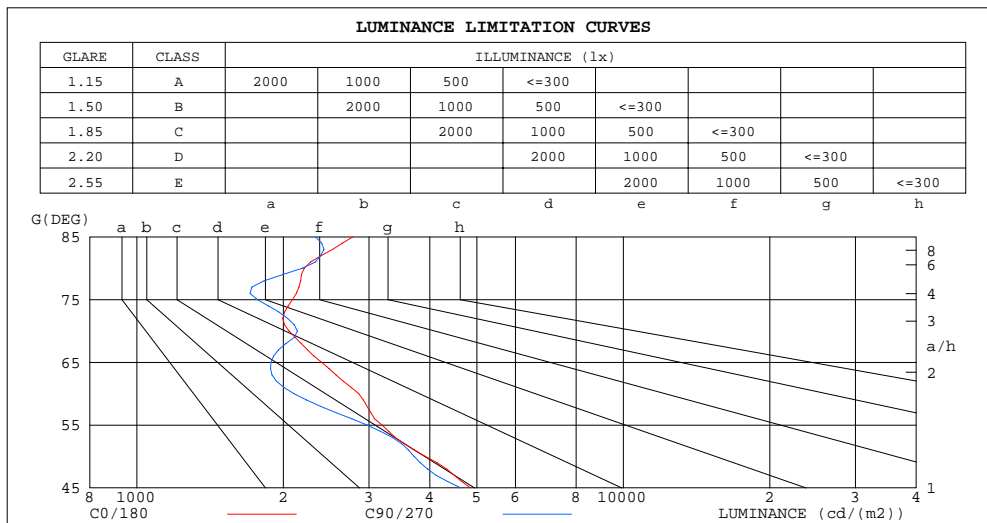
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	891.9	889.4	886.9	885.0	886.5	888.9	891.3	893.0	0- 10	85.68	85.68	4.37,4.37
20	845.3	840.0	835.4	832.9	834.6	837.6	844.2	847.2	10- 20	245.1	330.7	16.9,16.9
30	761.2	753.8	745.5	739.3	742.5	748.9	758.1	761.4	20- 30	368.7	699.4	35.6,35.6
40	624.7	620.5	603.9	588.9	596.5	609.3	618.4	624.6	30- 40	429.5	1129	57.5,57.5
50	365.4	370.0	346.3	296.8	318.8	364.0	345.6	332.1	40- 50	367.1	1496	76.2,76.2
60	207.2	168.8	152.5	172.8	188.0	155.4	172.4	190.6	50- 60	228.3	1724	87.9,87.9
70	101.9	103.0	106.0	82.57	94.29	105.6	106.7	88.30	60- 70	126.1	1850	94.3,94.3
80	55.56	52.10	55.11	46.46	48.36	56.18	57.73	56.10	70- 80	78.84	1929	98.3,98.3
90	5.687	2.835	0.8849	0.8935	1.271	1.237	2.749	5.644	80- 90	32.94	1962	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		

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	2782	2329
80	2207	2189
75	2089	1767
70	2055	2138
65	2398	1887
60	2858	2103
55	3190	2974
50	3920	3716
45	4853	4634

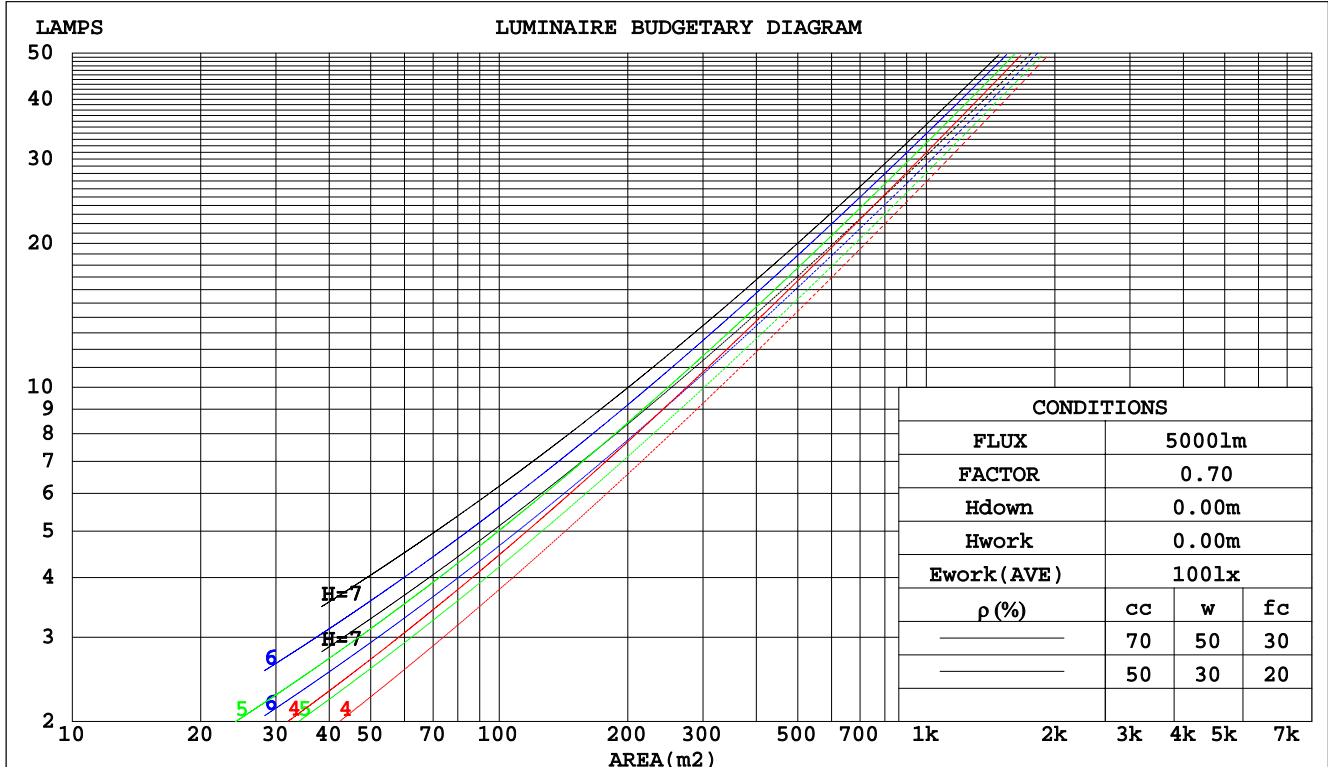
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-13

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	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	1.00
1.0	1.06	1.02	.99	1.04	1.00	.97	.00	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.94	.88	.83	.93	.87	.82	.89	.84	.80	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.70	.77	.72	.68	.75	.71	.67	.65
4.0	.76	.68	.62	.75	.67	.62	.72	.66	.61	.70	.64	.60	.68	.63	.59	.57
5.0	.69	.61	.55	.68	.60	.54	.66	.59	.54	.64	.58	.53	.62	.57	.53	.51
6.0	.62	.54	.48	.62	.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	.52	.44	.39	.52	.44	.39	.50	.44	.39	.49	.43	.39	.48	.43	.38	.37
9.0	.48	.41	.35	.48	.40	.35	.47	.40	.35	.46	.39	.35	.45	.39	.35	.33
10.0	.45	.37	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.42	.36	.32	.30



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-13

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.: 450*82			SERIAL No.:		
MFR.: NLC24-0006-02			SUR.:3.14*0.215*0.215			Shielding Angle:		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.269	.153	.049	.262	.150	.048	.249	.143	.046	.237	.137	.044	.226	.131	.042		
2.0	.254	.139	.043	.248	.137	.042	.237	.132	.041	.226	.127	.040	.217	.123	.039		
3.0	.238	.127	.038	.232	.124	.037	.222	.121	.037	.213	.117	.036	.205	.113	.035		
4.0	.222	.115	.034	.217	.114	.034	.209	.111	.033	.200	.108	.032	.193	.105	.032		
5.0	.207	.106	.031	.203	.104	.030	.196	.102	.030	.188	.099	.030	.182	.097	.029		
6.0	.194	.097	.028	.191	.096	.028	.184	.094	.027	.177	.092	.027	.171	.090	.027		
7.0	.183	.090	.026	.179	.089	.025	.173	.088	.025	.167	.086	.025	.162	.084	.025		
8.0	.172	.084	.024	.169	.083	.024	.163	.082	.023	.158	.080	.023	.153	.079	.023		
9.0	.162	.078	.022	.160	.078	.022	.155	.076	.022	.150	.075	.022	.145	.074	.021		
10.0	.153	.074	.020	.151	.073	.020	.147	.072	.020	.142	.071	.020	.138	.070	.020		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.178	.156	.138	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.023	.016	.012	.007	
5.0	.143	.090	.051	.123	.078	.044	.084	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.036	.080	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.129	.074	.035	.111	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.123	.068	.030	.106	.059	.027	.073	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.027	.101	.055	.023	.070	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.097	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity:65.0%
 Test Distance:11.700m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.: 450*82			SERIAL No.:			
MFR.: NLC24-0006-02					SUR.:3.14*0.215*0.215			Shielding 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	16.6	18.0	16.9	18.2	18.4	15.9	17.2	16.1	17.4	17.6	
	3H	17.4	18.6	17.7	18.9	19.1	16.4	17.7	16.7	17.9	
	4H	17.8	18.9	18.1	19.2	19.4	16.8	18.0	17.1	18.2	
	6H	18.1	19.2	18.4	19.5	19.7	17.2	18.3	17.5	18.6	
	8H	18.3	19.4	18.6	19.6	19.9	17.5	18.5	17.8	18.8	
	12H	18.5	19.5	18.8	19.8	20.1	17.6	18.7	18.0	19.0	
4H	2H	16.7	17.9	17.1	18.2	18.4	16.1	17.3	16.4	17.5	
	3H	17.8	18.8	18.1	19.1	19.4	16.9	17.9	17.2	18.2	
	4H	18.3	19.2	18.7	19.6	19.9	17.4	18.3	17.8	18.6	
	6H	18.8	19.6	19.2	20.0	20.3	18.0	18.8	18.4	19.2	
	8H	19.1	19.8	19.5	20.2	20.6	18.3	19.1	18.7	19.5	
	12H	19.3	20.1	19.8	20.4	20.8	18.6	19.3	19.0	19.7	
8H	4H	18.4	19.2	18.8	19.6	20.0	17.6	18.4	18.0	18.8	
	6H	19.1	19.7	19.5	20.1	20.5	18.4	19.0	18.8	19.4	
	8H	19.5	20.1	20.0	20.5	20.9	18.9	19.5	19.3	19.9	
	12H	19.9	20.4	20.4	20.9	21.3	19.3	19.8	19.8	20.2	
12H	4H	18.4	19.2	18.9	19.5	19.9	17.6	18.4	18.1	18.7	
	6H	19.2	19.7	19.6	20.1	20.6	18.5	19.1	19.0	19.5	
	8H	19.6	20.1	20.1	20.6	21.0	19.1	19.5	19.5	20.0	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.5 / - 0.5					+ 0.6 / - 0.6					
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.3					
2.0H	+ 0.9 / - 0.7					+ 1.1 / - 0.8					

CIE Pub.117, 1962 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.3$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity:65.0%
 Test Distance:11.700m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:

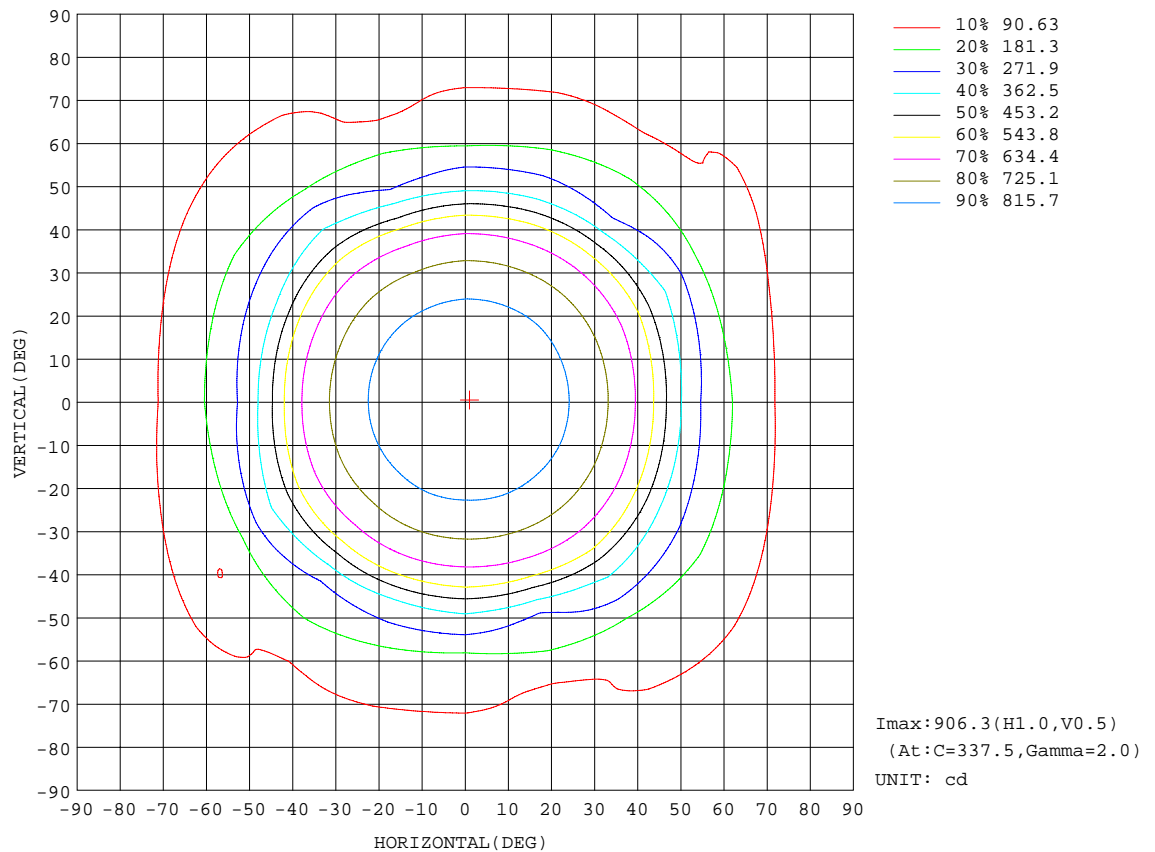
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	65	55	49	64	54	48	63	54	48	43
0.80	75	65	58	74	64	58	72	64	58	52
1.00	83	73	67	82	73	67	80	74	66	60
1.25	89	80	74	88	80	74	85	78	73	67
1.50	94	85	79	92	85	79	89	83	78	71
2.00	99	92	87	98	91	86	94	89	85	78
2.50	102	96	91	101	95	90	97	92	88	80
3.00	105	99	95	103	98	94	99	95	91	84
4.00	108	104	100	106	102	98	102	99	96	87
5.00	110	106	103	108	104	101	104	101	98	89
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity:65.0%
 Test Distance:11.700m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:

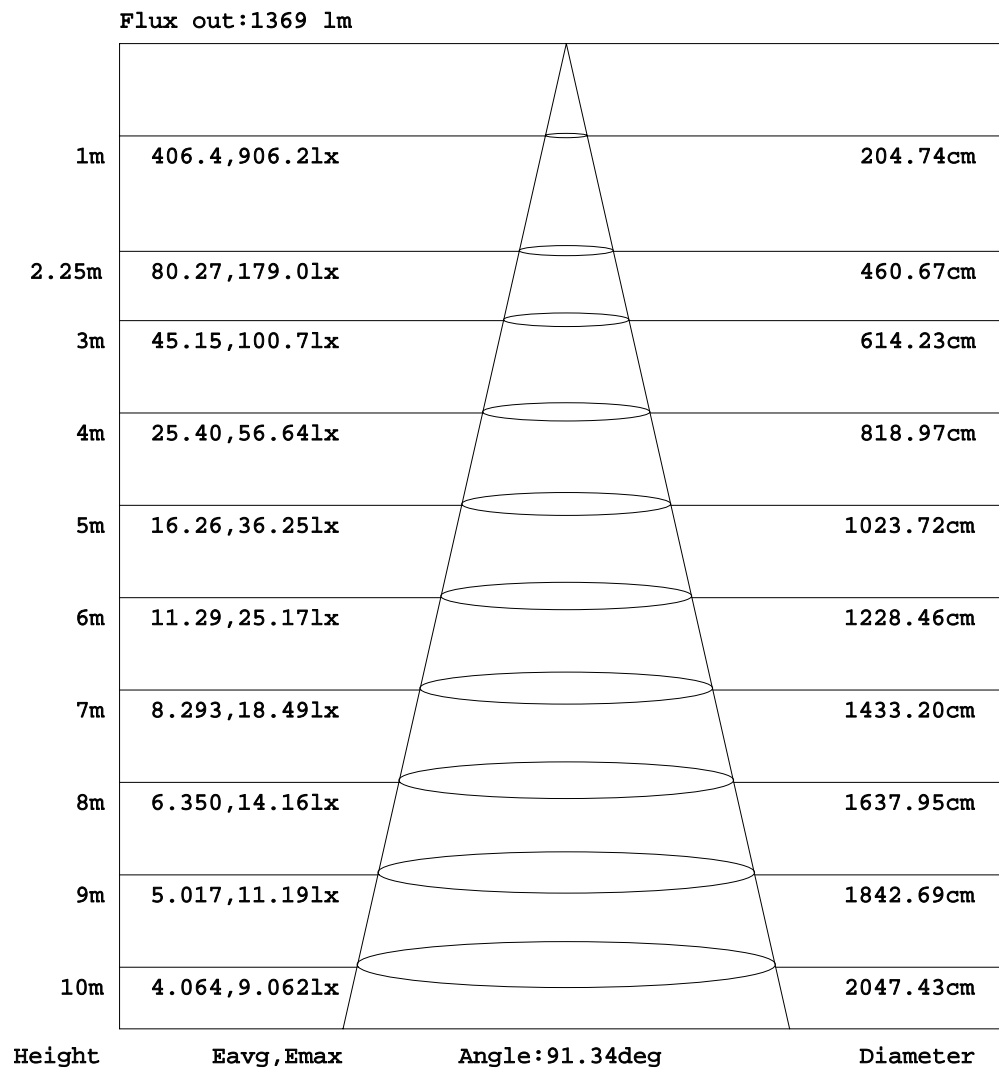


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

AAI Figure

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:



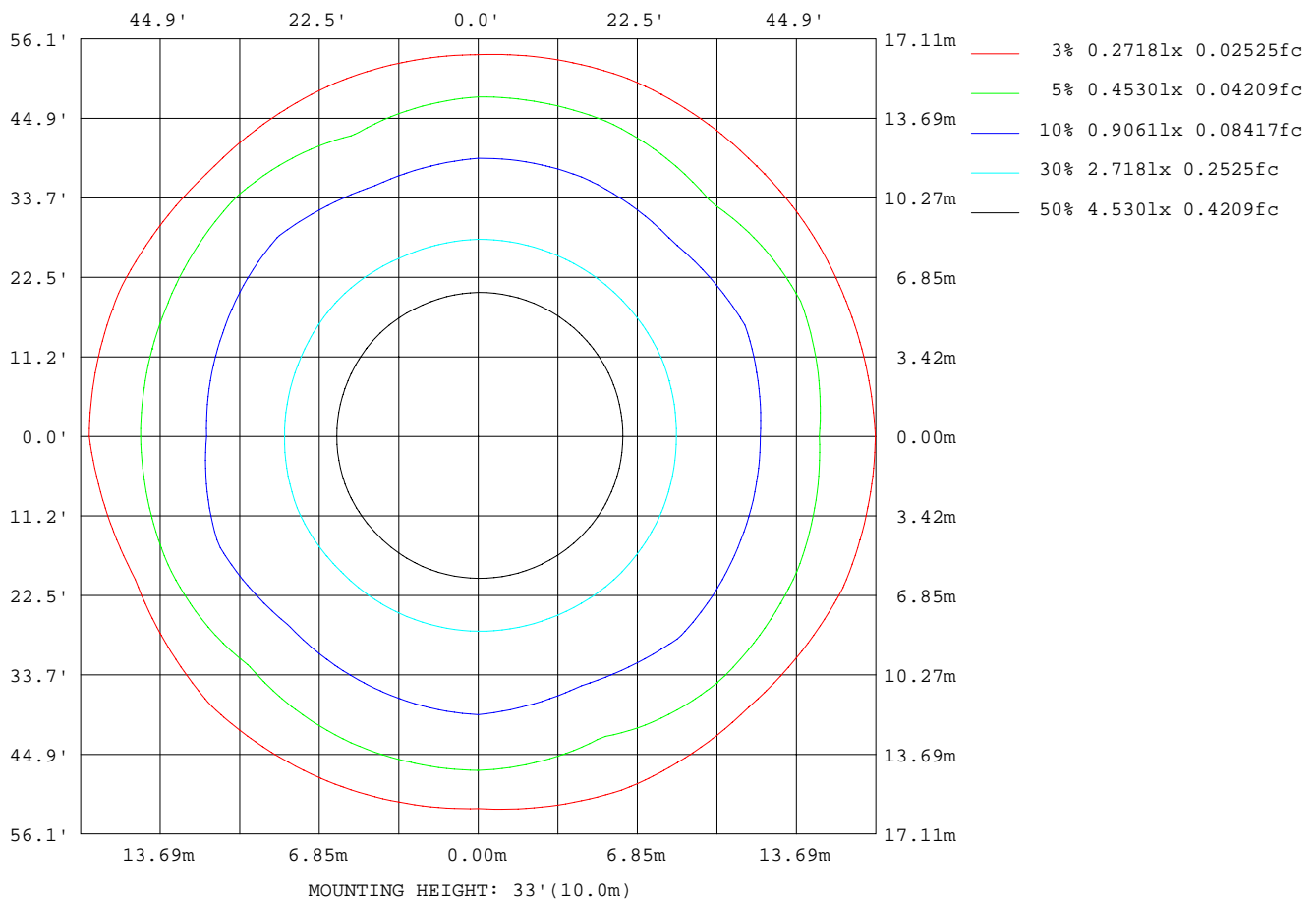
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
 Humidity: 65.0%
 Test Distance: 11.700m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity: 65.0%
Test Distance: 11.700m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:229.64V I:0.0697A P:14.946W PF:0.9340 Freq:49.99Hz Lamp Flux:1962.13x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 450*82	SERIAL No.:
MFR.: NLC24-0006-02	SUR.:3.14*0.215*0.215	Shielding Angle:

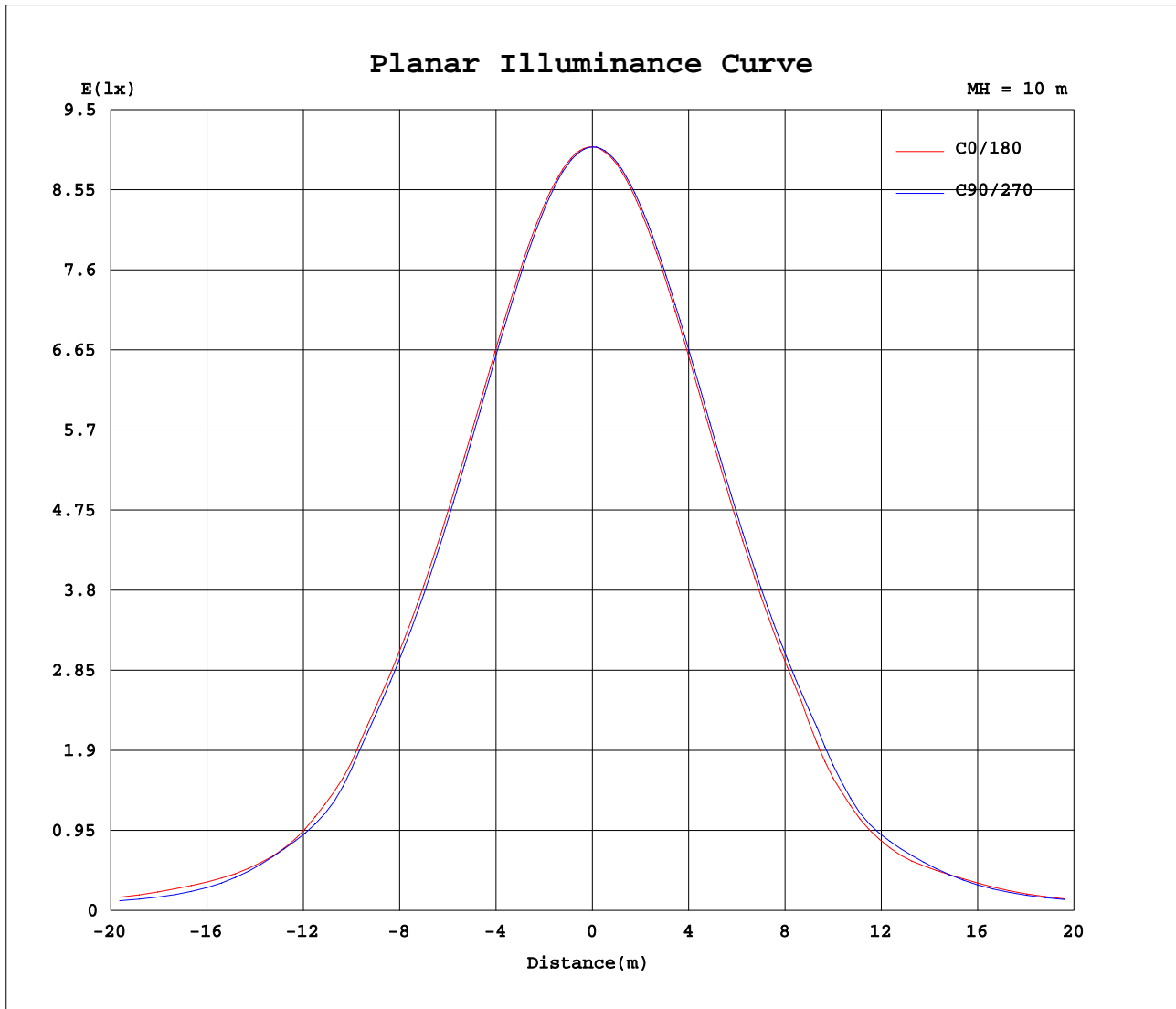
AvgL	cd/m2
L_0~180(65)av	2240
L_0~180(75)av	2054
L_0~180(85)av	2502
L_90~270(65)av	1974
L_90~270(75)av	1897
L_90~270(85)av	2495
L_45(65)av	1906
L_45(75)av	1982
L_45(85)av	2416

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-13

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2024-08-13

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity: 65.0%
Test Distance: 11.700m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

```