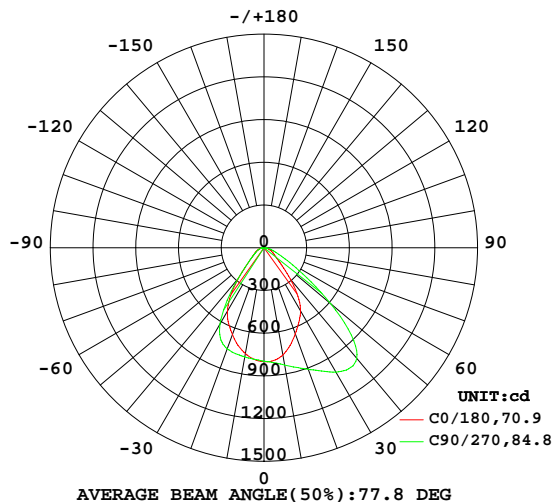


LUMINAIRE PHOTOMETRIC TEST REPORT

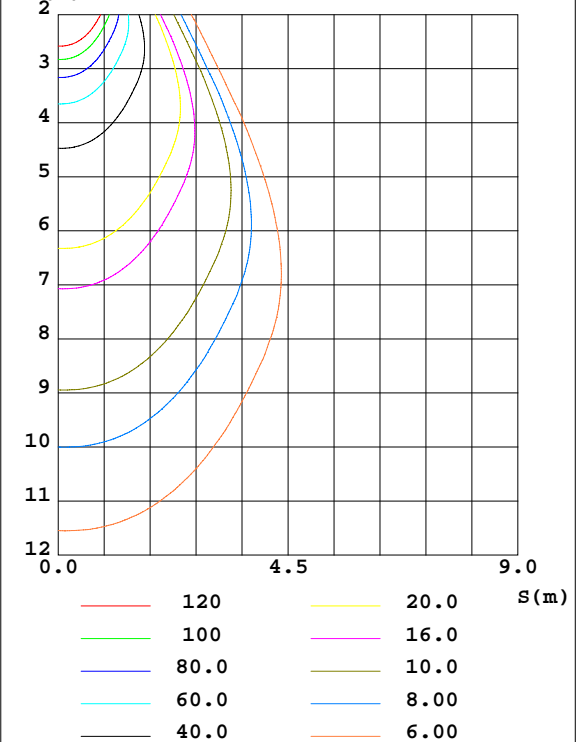
Test:U:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 15.49 lm/W			
MODEL		Imax(cd)	1039	S/MH(C0/180)	1.01
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	1.06
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	1521.0	η UP,DN(C0-180)	0.0,62.1
NOMINAL FLUX(lm)	1521.01	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,37.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230.0	η down(%)	100.0	CIBSE SHR MAX	1.15

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:2024-08-28

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:

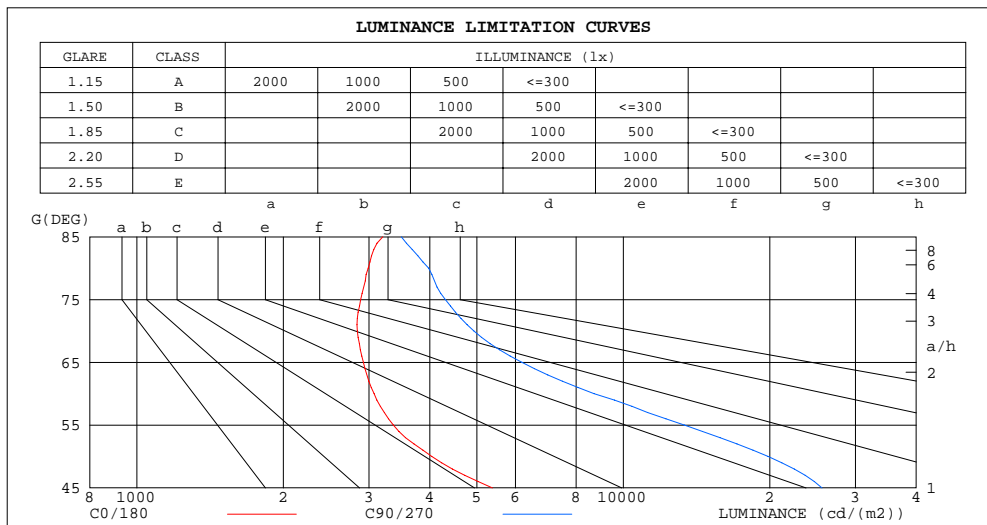
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	$\%lum, lamp$
10	764.5	805.1	837.2	800.8	754.7	757.8	778.4	764.2	0- 10	75.41	75.41	4.96,4.96
20	643.4	779.9	908.2	793.2	649.0	673.2	755.8	674.8	10- 20	214.9	290.3	19.1,19.1
30	514.1	739.0	1008	763.4	513.1	537.2	619.5	527.5	20- 30	322.0	612.3	40.3,40.3
40	288.8	673.8	1014	699.9	276.6	280.5	283.5	280.0	30- 40	355.6	968.0	63.6,63.6
50	124.6	392.5	612.2	409.4	120.6	123.2	119.8	123.1	40- 50	274.7	1243	81.7,81.7
60	73.77	136.3	208.9	142.7	71.72	68.07	68.40	68.81	50- 60	147.0	1390	91.4,91.4
70	46.60	64.03	80.93	64.19	45.04	43.59	43.90	44.91	60- 70	75.63	1465	96.3,96.3
80	24.92	29.34	33.18	28.25	23.32	21.33	20.41	22.47	70- 80	41.74	1507	99.1,99.1
90	1.435	1.555	0.6959	0.3436	0.5241	0.8247	1.151	1.521	80- 90	13.90	1521	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:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	3201	3496
80	2989	3981
75	2885	4306
70	2838	4929
65	2923	6184
60	3074	8706
55	3367	13345
50	4038	19841
45	5383	25601

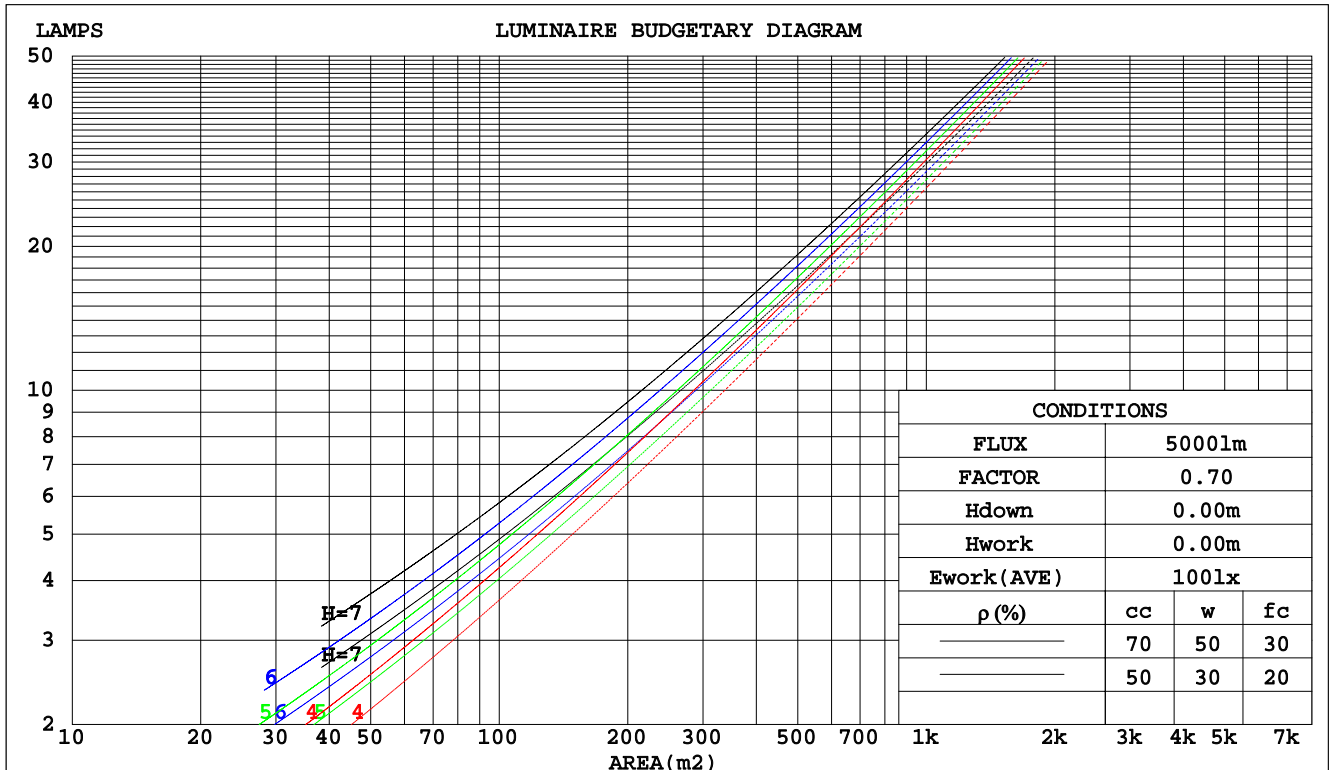
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.96	.91	.86	.94	.89	.85	.91	.87	.83	.88	.84	.81	.85	.82	.80	.78
3.0	.87	.80	.75	.85	.79	.74	.82	.77	.73	.80	.75	.71	.77	.74	.70	.68
4.0	.79	.71	.65	.77	.70	.65	.75	.69	.64	.73	.68	.63	.71	.66	.63	.61
5.0	.71	.64	.58	.70	.63	.58	.68	.62	.57	.67	.61	.57	.65	.60	.56	.54
6.0	.65	.57	.52	.64	.57	.52	.63	.56	.51	.61	.55	.51	.60	.54	.50	.49
7.0	.60	.52	.47	.59	.52	.47	.58	.51	.46	.56	.50	.46	.55	.50	.46	.44
8.0	.55	.48	.42	.54	.47	.42	.53	.47	.42	.52	.46	.42	.51	.46	.42	.40
9.0	.51	.44	.39	.50	.43	.38	.49	.43	.38	.48	.42	.38	.47	.42	.38	.36
10.0	.47	.40	.35	.47	.40	.35	.46	.40	.35	.45	.39	.35	.44	.39	.35	.33



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.: 620*160*28			SERIAL No.:		
MFR.: NLD-24-2028			SUR.:0.4*0.12			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	.247	.140	.044	.240	.137	.043	.227	.130	.042	.215	.124	.040	.204	.118	.038	
2.0	.236	.129	.040	.230	.127	.039	.219	.122	.038	.208	.117	.037	.199	.112	.035	
3.0	.223	.118	.035	.217	.116	.035	.208	.113	.034	.199	.109	.033	.190	.105	.033	
4.0	.209	.109	.032	.205	.107	.032	.196	.104	.031	.188	.101	.030	.181	.098	.030	
5.0	.197	.100	.029	.193	.099	.029	.185	.096	.028	.178	.094	.028	.172	.092	.028	
6.0	.185	.093	.027	.182	.092	.026	.175	.090	.026	.169	.088	.026	.163	.086	.025	
7.0	.175	.086	.025	.172	.086	.024	.166	.084	.024	.160	.082	.024	.155	.080	.024	
8.0	.165	.081	.023	.162	.080	.023	.157	.078	.022	.152	.077	.022	.147	.076	.022	
9.0	.156	.076	.021	.154	.075	.021	.149	.074	.021	.144	.072	.021	.140	.071	.021	
10.0	.148	.071	.020	.146	.071	.020	.142	.069	.020	.138	.068	.019	.134	.067	.019	

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	.176	.157	.139	.151	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.091	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.070	.091	.068	.049	.053	.040	.029	.017	.013	.010	
4.0	.147	.100	.064	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.133	.081	.043	.114	.070	.038	.079	.049	.027	.046	.029	.016	.015	.009	.005	
7.0	.126	.074	.036	.109	.064	.032	.075	.045	.023	.044	.026	.013	.014	.009	.004	
8.0	.121	.068	.031	.104	.059	.027	.072	.041	.019	.042	.024	.012	.014	.008	.004	
9.0	.115	.063	.027	.099	.054	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.110	.058	.024	.095	.051	.021	.066	.036	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm										
NAME:			TYPE:			WEIGHT:				
SPEC.:			DIM.: 620*160*28			SERIAL No.:				
MFR.: NLD-24-2028			SUR.:0.4*0.12			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	17.6	18.9	17.8	19.1	19.3	23.1	24.4	23.3	24.6	24.7
3H	18.0	19.2	18.3	19.4	19.6	23.3	24.5	23.6	24.7	24.9
4H	18.2	19.4	18.5	19.6	19.8	23.3	24.5	23.6	24.7	25.0
6H	18.5	19.5	18.8	19.8	20.0	23.4	24.5	23.7	24.7	25.0
8H	18.6	19.6	18.9	19.9	20.1	23.4	24.4	23.7	24.7	25.0
12H	18.7	19.6	19.0	19.9	20.2	23.4	24.4	23.7	24.7	25.0
4H 2H	18.2	19.3	18.5	19.5	19.8	22.9	24.1	23.2	24.3	24.5
3H	18.7	19.7	19.1	20.0	20.3	23.3	24.2	23.6	24.5	24.8
4H	19.1	19.9	19.4	20.2	20.6	23.4	24.3	23.8	24.6	24.9
6H	19.4	20.2	19.8	20.5	20.9	23.6	24.4	24.0	24.7	25.1
8H	19.6	20.3	20.0	20.6	21.0	23.6	24.4	24.0	24.7	25.1
12H	19.7	20.4	20.1	20.7	21.1	23.7	24.3	24.1	24.7	25.1
8H 4H	19.3	20.0	19.7	20.4	20.7	23.4	24.1	23.8	24.5	24.8
6H	19.8	20.4	20.2	20.8	21.2	23.6	24.2	24.1	24.6	25.0
8H	20.0	20.5	20.5	21.0	21.4	23.7	24.3	24.2	24.7	25.1
12H	20.2	20.7	20.7	21.1	21.6	23.8	24.3	24.3	24.7	25.2
12H 4H	19.3	20.0	19.7	20.3	20.7	23.4	24.0	23.8	24.4	24.8
6H	19.8	20.4	20.3	20.8	21.2	23.6	24.1	24.1	24.6	25.0
8H	20.1	20.6	20.6	21.0	21.5	23.7	24.2	24.2	24.6	25.1
Variations with the observer position at spacings:										
S = 1.0H	+ 1.1 / - 1.3					+ 0.8 / - 1.1				
1.5H	+ 1.9 / - 1.5					+ 1.3 / - 1.3				
2.0H	+ 1.6 / - 1.1					+ 3.1 / - 2.7				

CIE Pub.117, 1521 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.5$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:

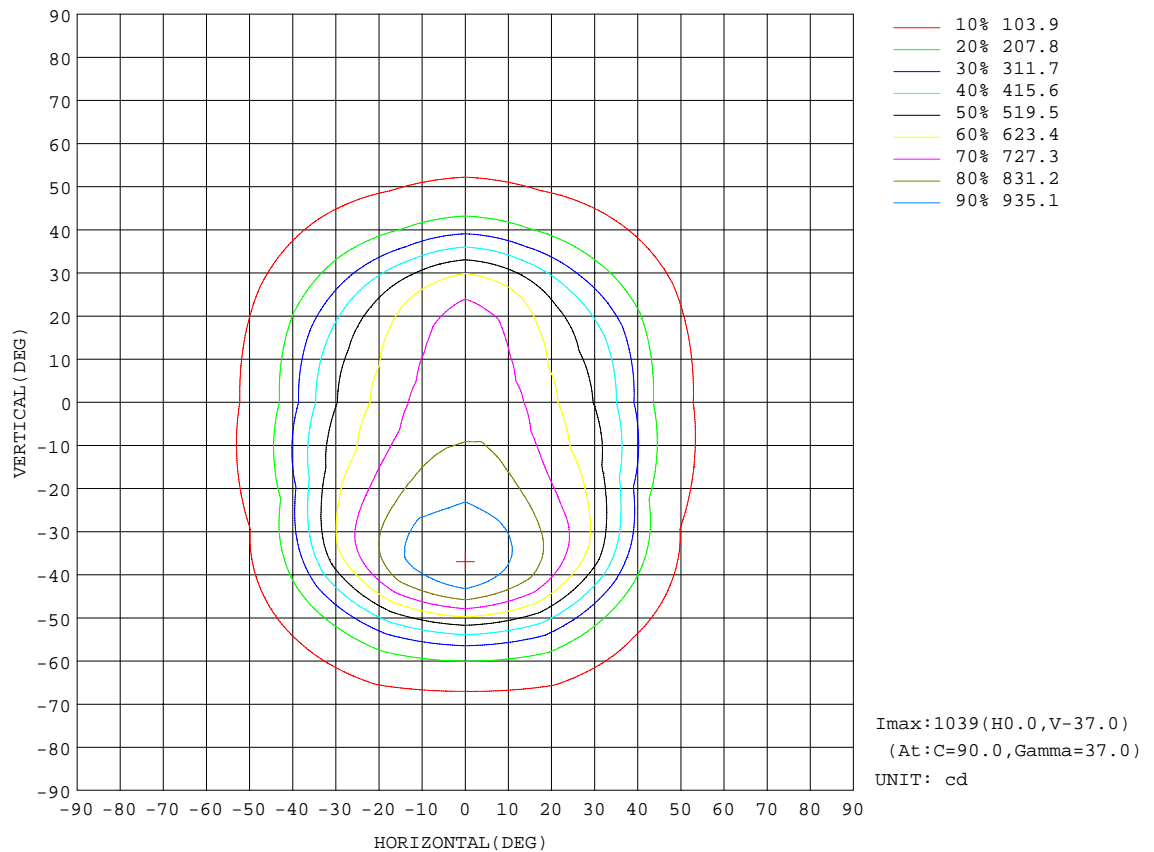
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	69	59	53	68	59	53	67	58	53	48
0.80	78	69	63	77	69	63	76	68	63	57
1.00	86	77	71	85	77	71	83	77	71	65
1.25	92	84	78	91	83	78	88	82	77	71
1.50	96	89	83	95	88	83	92	86	82	76
2.00	101	95	90	100	94	89	97	92	88	81
2.50	104	98	94	102	97	93	99	94	91	84
3.00	107	101	97	105	100	96	101	97	94	86
4.00	110	105	102	107	104	100	103	100	98	90
5.00	111	108	105	109	106	103	105	102	100	91
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:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:

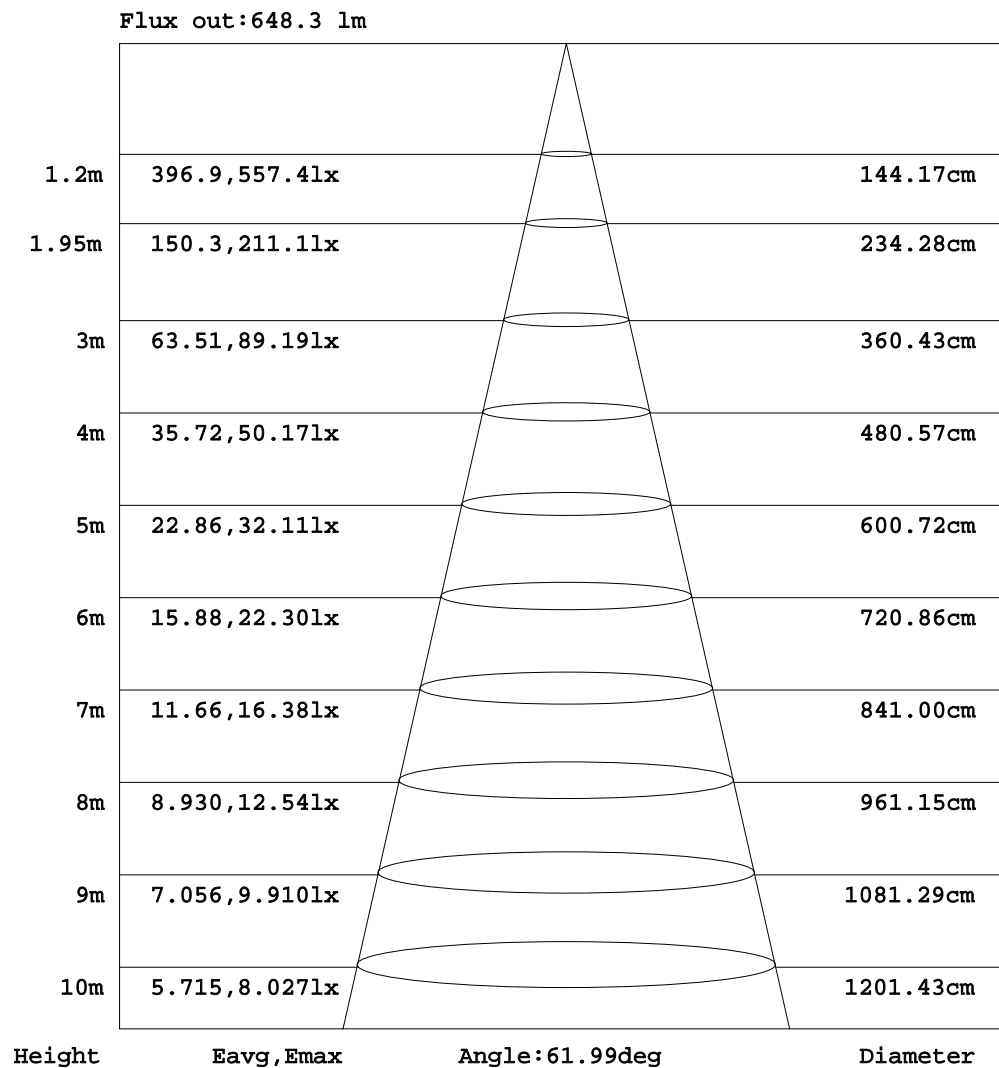


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:



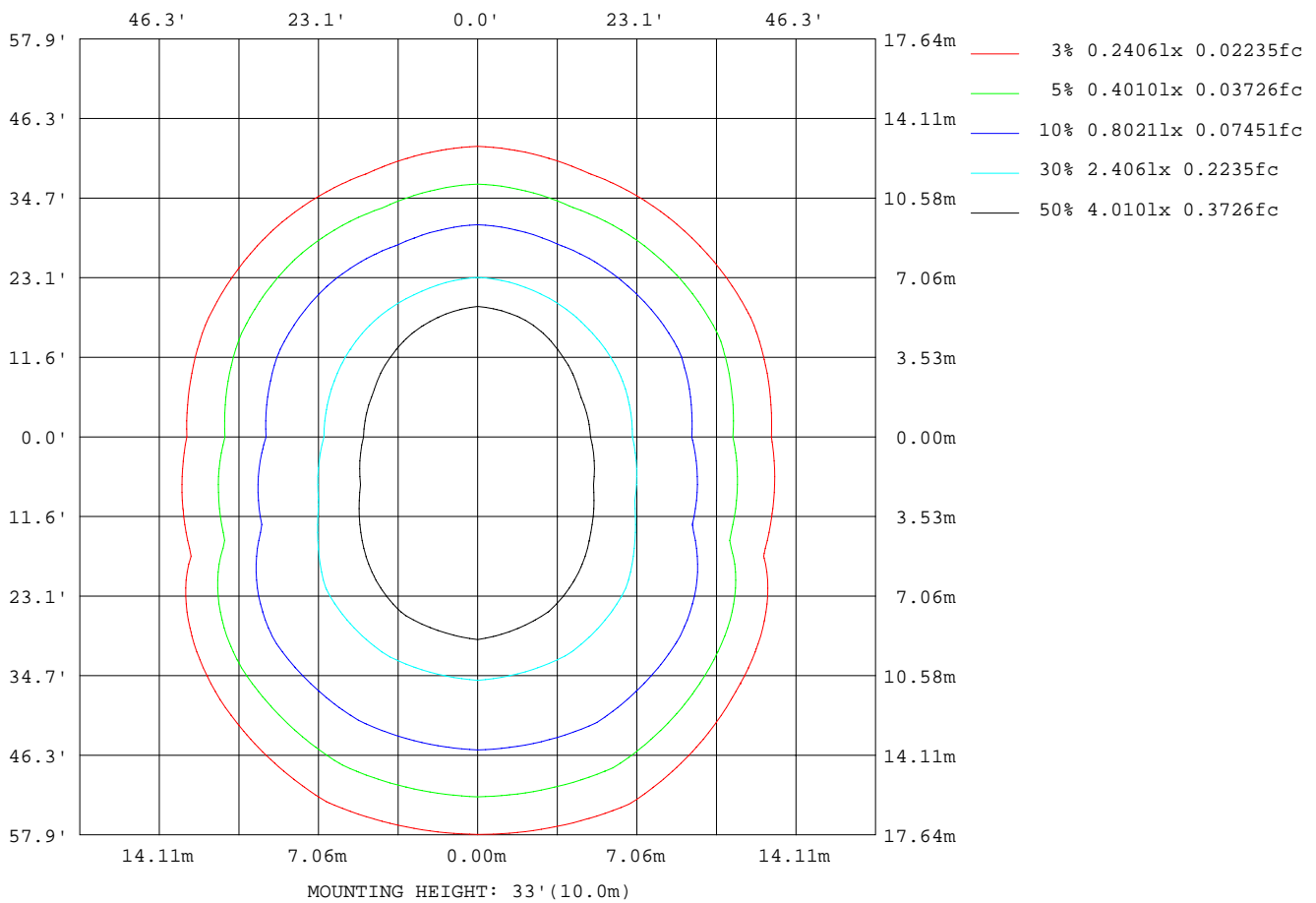
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2024-08-28

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:229.65V I:0.4353A P:98.210W PF:0.9824 Freq:49.99Hz Lamp Flux:1521.01x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.12	Shielding Angle:

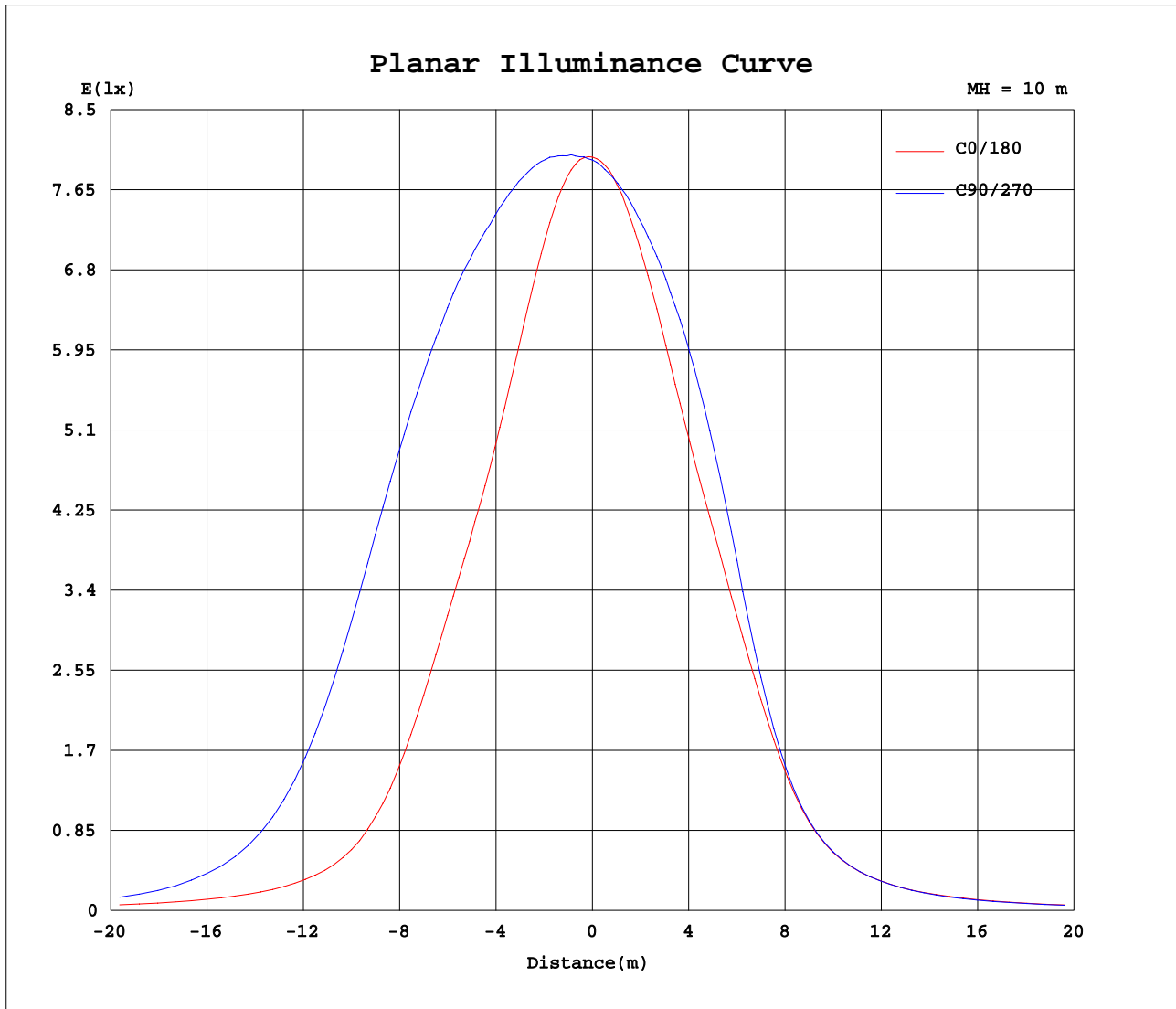
AvgL	cd/m2
L_0~180(65)av	2879
L_0~180(75)av	2822
L_0~180(85)av	3010
L_90~270(65)av	4463
L_90~270(75)av	3429
L_90~270(85)av	2879
L_45(65)av	3628
L_45(75)av	3130
L_45(85)av	2976

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-28

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: 2024-08-28

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:

```