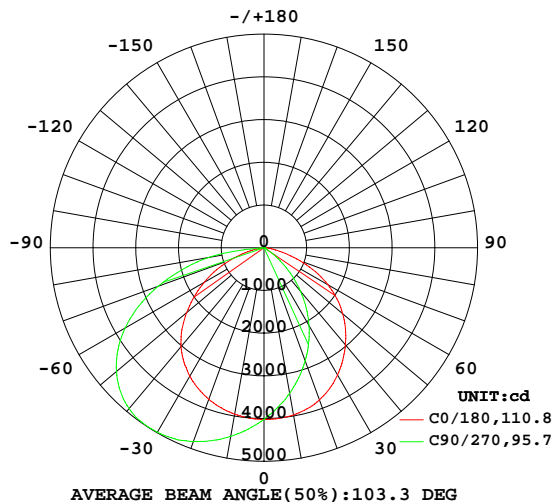


LUMINAIRE PHOTOMETRIC TEST REPORT

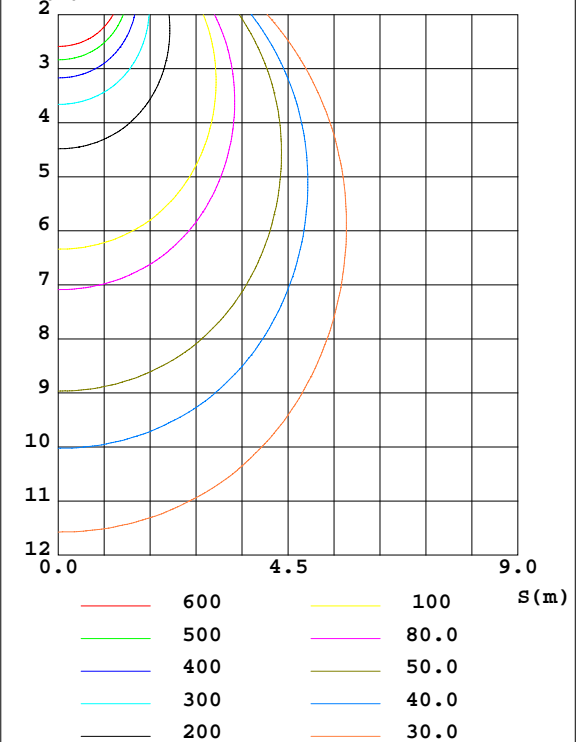
Test:U:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 117.79 lm/W			
MODEL		I _{max} (cd)	4996	S/MH(C0/180)	1.28
NOMINAL POWER(W)	88	LOR(%)	100.0	S/MH(C90/270)	1.79
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	11608	η UP,DN(C0-180)	0.0,28.4
NOMINAL FLUX(lm)	11608	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,71.6
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:2024-08-28

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:

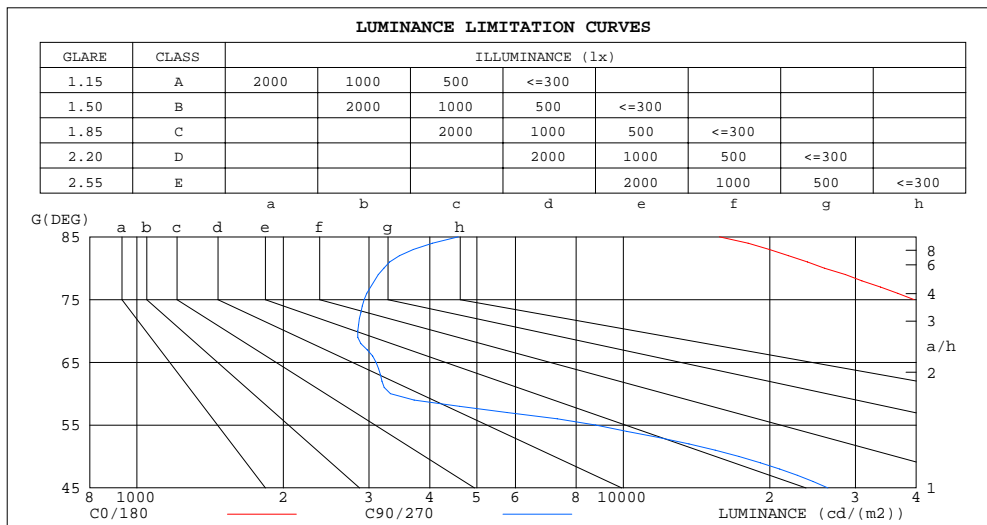
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	$\%lum, lamp$
10	3976	3613	3460	3597	3957	4321	4482	4338	0- 10	381.3	381.3	3.28,3.28
20	3791	3110	2822	3086	3778	4513	4825	4531	10- 20	1103	1484	12.8,12.8
30	3444	2494	2111	2469	3472	4540	4990	4543	20- 30	1695	3179	27.4,27.4
40	2965	1778	1334	1773	3023	4346	4911	4307	30- 40	2065	5244	45.2,45.2
50	2405	1035	559.5	1020	2364	3871	4507	3809	40- 50	2133	7377	63.6,63.6
60	1727	374.0	83.67	336.8	1613	3028	3751	3106	50- 60	1873	9251	79.7,79.7
70	897.3	69.31	49.04	72.62	820.3	2010	2635	2169	60- 70	1392	10643	91.7,91.7
80	226.7	37.96	28.17	41.02	183.9	829.0	1321	963.2	70- 80	785.2	11428	98.4,98.4
90	12.91	16.76	13.55	11.82	7.577	3.038	2.809	10.07	80- 90	180.1	11608	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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	15759	4578
80	25898	3219
75	39566	2933
70	52054	2845
65	62325	3103
60	68527	3320
55	72049	8773
50	74246	17271
45	75690	26343

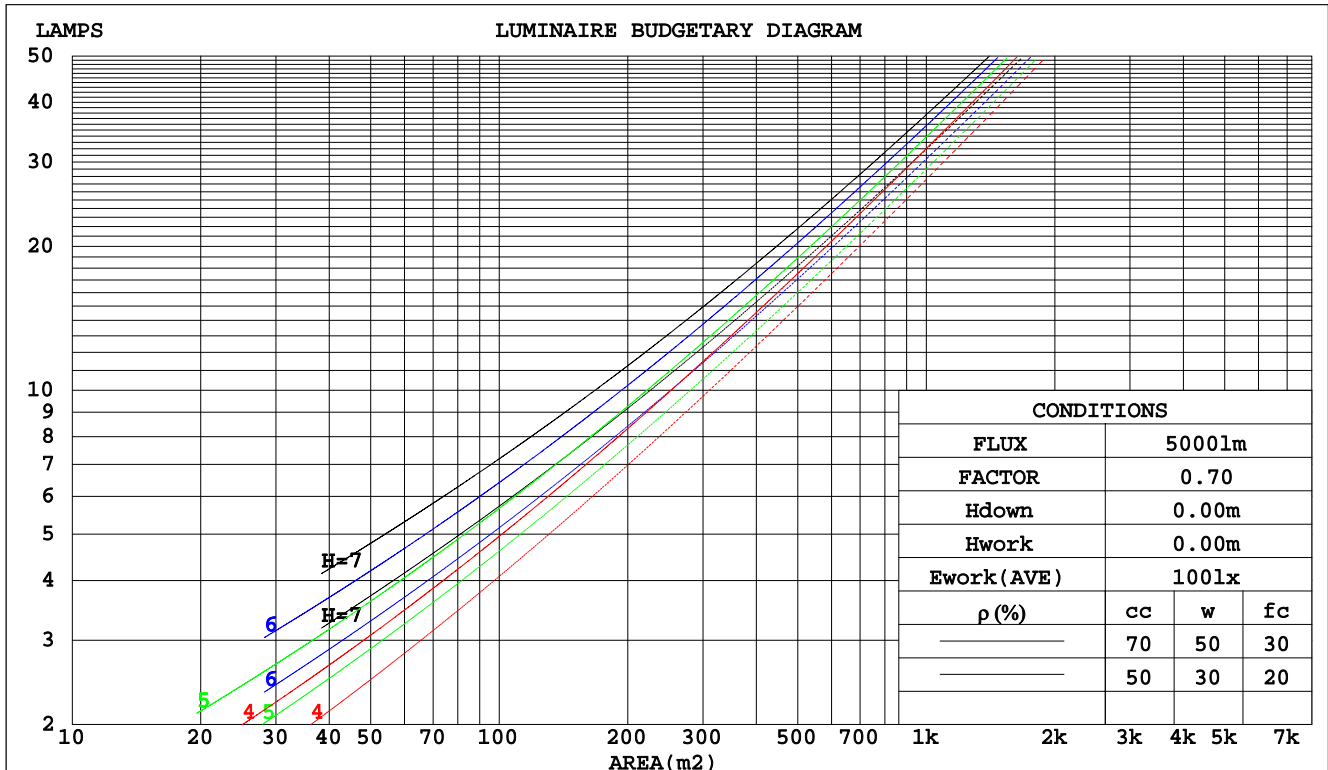
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2024-08-28

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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608xl 1m		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	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	1.04	.00	.96	1.02	.98	.95	.98	.94	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.83	.77	.85	.80	.76	.82	.78	.74	.79	.75	.72	.70
3.0	.80	.72	.65	.78	.71	.64	.75	.69	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.71	.62	.55	.69	.61	.55	.67	.60	.54	.64	.58	.53	.62	.57	.53	.50
5.0	.63	.54	.47	.62	.53	.47	.60	.52	.47	.58	.51	.46	.56	.50	.46	.43
6.0	.57	.48	.41	.56	.47	.41	.54	.46	.41	.52	.46	.40	.51	.45	.40	.38
7.0	.51	.43	.36	.51	.42	.36	.49	.42	.36	.48	.41	.36	.46	.40	.36	.34
8.0	.47	.38	.33	.46	.38	.32	.45	.37	.32	.44	.37	.32	.42	.36	.32	.30
9.0	.43	.35	.29	.42	.35	.29	.41	.34	.29	.40	.34	.29	.39	.33	.29	.27
10.0	.40	.32	.26	.39	.32	.26	.38	.31	.26	.37	.31	.26	.36	.30	.26	.24



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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608xl 1m								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.: 620*160*28			SERIAL No.:		
MFR.: NLD-24-2028			SUR.:0.4*0.126			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	.304	.173	.055	.297	.170	.054	.284	.163	.052	.272	.157	.050	.261	.151	.049	
2.0	.288	.158	.048	.282	.155	.048	.270	.150	.047	.260	.146	.046	.250	.141	.045	
3.0	.268	.142	.043	.262	.140	.042	.252	.136	.041	.242	.133	.041	.233	.129	.040	
4.0	.247	.129	.038	.243	.127	.038	.233	.124	.037	.225	.121	.036	.217	.118	.036	
5.0	.229	.117	.034	.225	.115	.034	.217	.113	.033	.209	.110	.033	.202	.108	.032	
6.0	.213	.107	.031	.209	.106	.030	.202	.103	.030	.195	.101	.030	.189	.099	.029	
7.0	.198	.098	.028	.195	.097	.028	.188	.095	.027	.182	.093	.027	.177	.092	.027	
8.0	.185	.090	.025	.182	.090	.025	.176	.088	.025	.171	.087	.025	.166	.085	.025	
9.0	.174	.084	.023	.171	.083	.023	.166	.082	.023	.161	.081	.023	.156	.079	.023	
10.0	.163	.078	.022	.161	.078	.022	.156	.077	.022	.152	.075	.021	.148	.074	.021	

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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.141	.099	.065	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.129	.069	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.004	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.: 620*160*28			SERIAL No.:			
MFR.: NLD-24-2028					SUR.:0.4*0.126			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	25.3	26.8	25.6	27.0	27.2	18.3	19.8	18.5	20.0	20.2	
	3H	26.5	27.9	26.8	28.1	28.4	18.1	19.5	18.4	19.7	
	4H	26.8	28.2	27.1	28.4	28.7	18.1	19.4	18.4	19.6	
	6H	27.0	28.2	27.3	28.5	28.8	18.0	19.3	18.3	19.5	
	8H	27.0	28.2	27.3	28.5	28.8	18.0	19.2	18.3	19.5	
	12H	27.0	28.1	27.3	28.4	28.7	18.0	19.1	18.3	19.4	
4H	2H	25.1	26.4	25.4	26.7	26.9	18.7	20.1	19.1	20.3	
	3H	26.3	27.4	26.6	27.7	28.0	18.6	19.8	19.0	20.1	
	4H	26.6	27.7	27.0	28.0	28.4	18.6	19.7	19.0	20.0	
	6H	26.8	27.8	27.2	28.1	28.5	18.6	19.5	19.0	19.9	
	8H	26.9	27.8	27.3	28.1	28.5	18.6	19.5	19.0	19.8	
	12H	26.9	27.7	27.3	28.1	28.5	18.6	19.4	19.0	19.8	
8H	4H	26.5	27.4	26.9	27.7	28.1	18.6	19.5	19.0	19.9	
	6H	26.7	27.4	27.2	27.8	28.3	18.7	19.4	19.1	19.8	
	8H	26.8	27.4	27.2	27.8	28.3	18.7	19.4	19.2	19.8	
	12H	26.8	27.4	27.3	27.8	28.3	18.8	19.3	19.3	19.8	
12H	4H	26.5	27.3	26.9	27.7	28.1	18.6	19.4	19.0	19.8	
	6H	26.7	27.3	27.1	27.7	28.2	18.7	19.3	19.1	19.7	
	8H	26.7	27.3	27.2	27.7	28.2	18.7	19.3	19.2	19.7	
Variations with the observer position at spacings:											
S = 1.0H	+ 0.6 / - 0.5					+ 1.9 / - 3.8					
1.5H	+ 1.4 / - 1.7					+ 1.2 / - 2.3					
2.0H	+ 2.4 / - 3.8					+ 3.2 / - 5.4					

CIE Pub.117, 11608 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 8.5$)

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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	Shielding Angle:

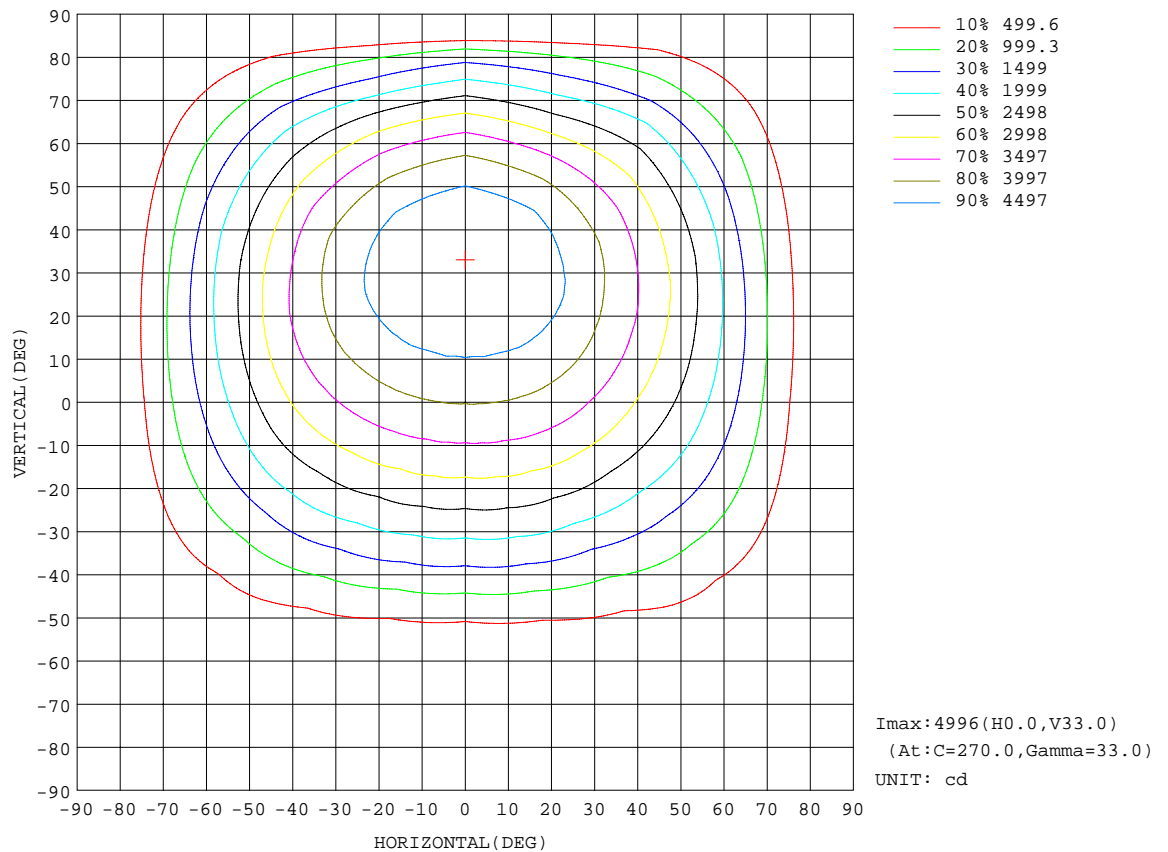
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	45	39	33
0.80	68	56	49	67	56	49	65	55	48	42
1.00	76	65	58	75	65	58	73	66	57	50
1.25	83	73	66	82	72	66	79	71	65	58
1.50	88	79	72	87	78	71	84	76	70	63
2.00	95	87	80	93	86	80	90	83	78	70
2.50	99	92	86	97	90	85	93	87	83	75
3.00	103	96	90	100	94	89	96	91	87	79
4.00	106	101	96	104	99	95	100	96	92	83
5.00	109	104	100	106	102	99	102	99	95	86
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
 γ 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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	Shielding Angle:

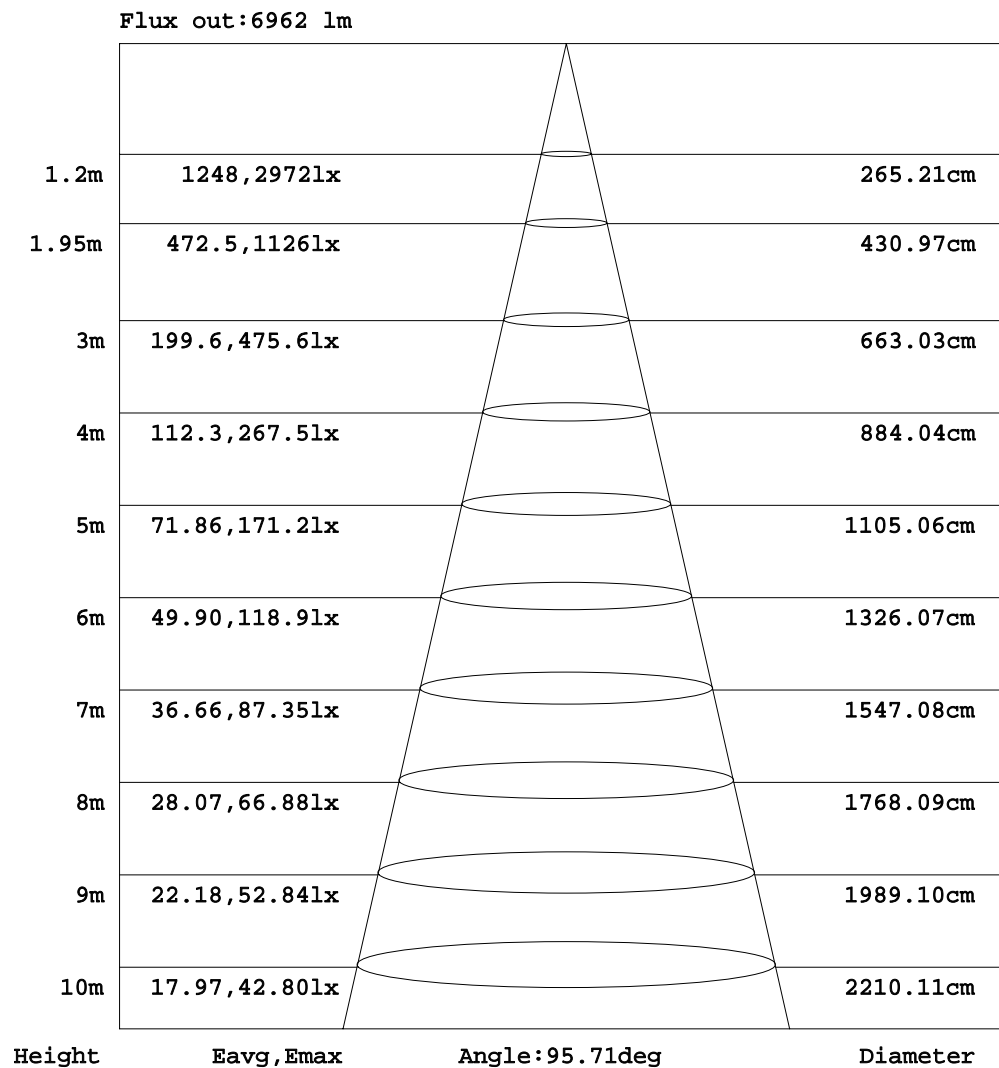


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2024-08-28

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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	Shielding Angle:



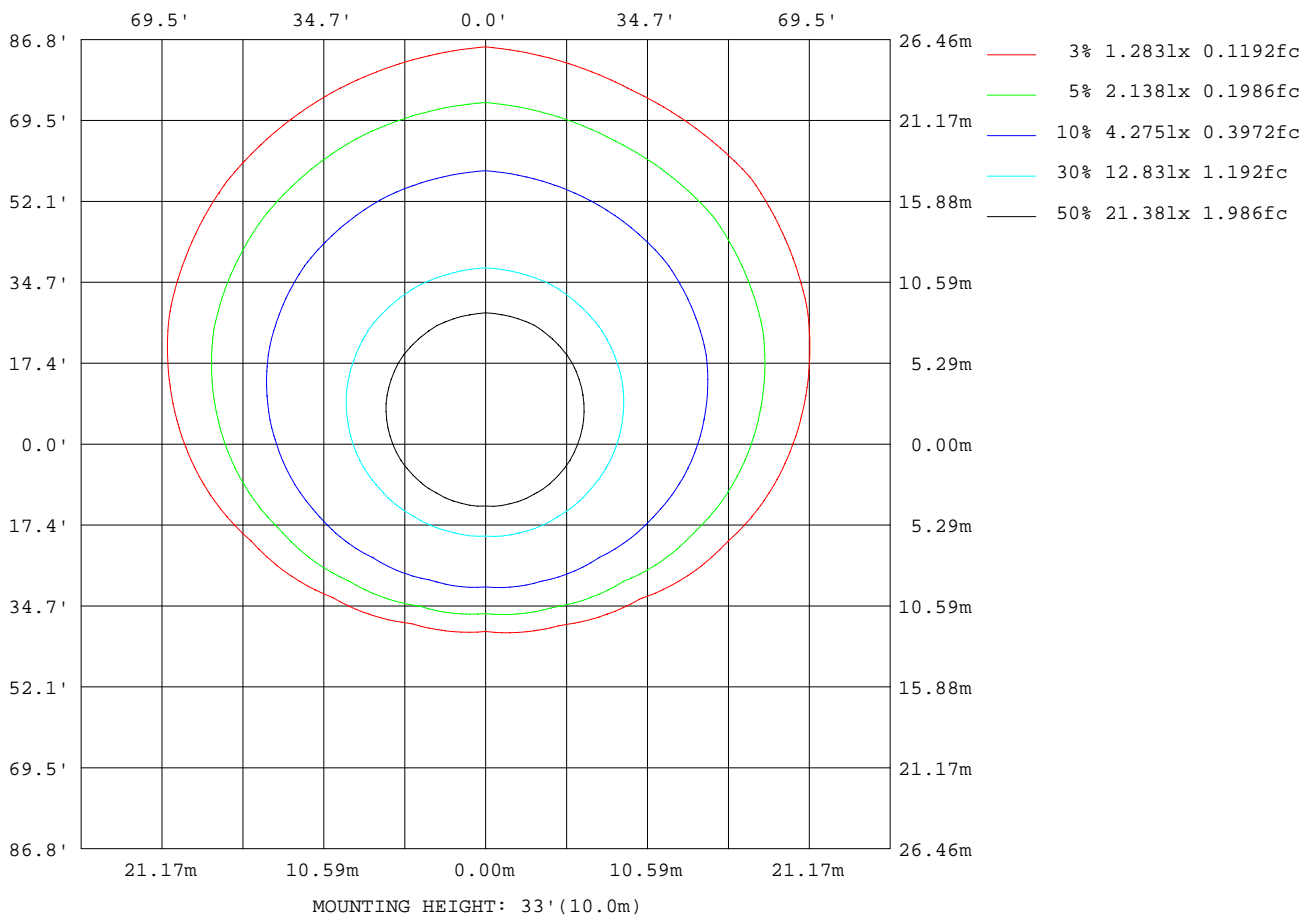
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	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:229.66V I:0.4368A P:98.552W PF:0.9824 Freq:49.99Hz Lamp Flux:11608x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 620*160*28	SERIAL No.:
MFR.: NLD-24-2028	SUR.:0.4*0.126	Shielding Angle:

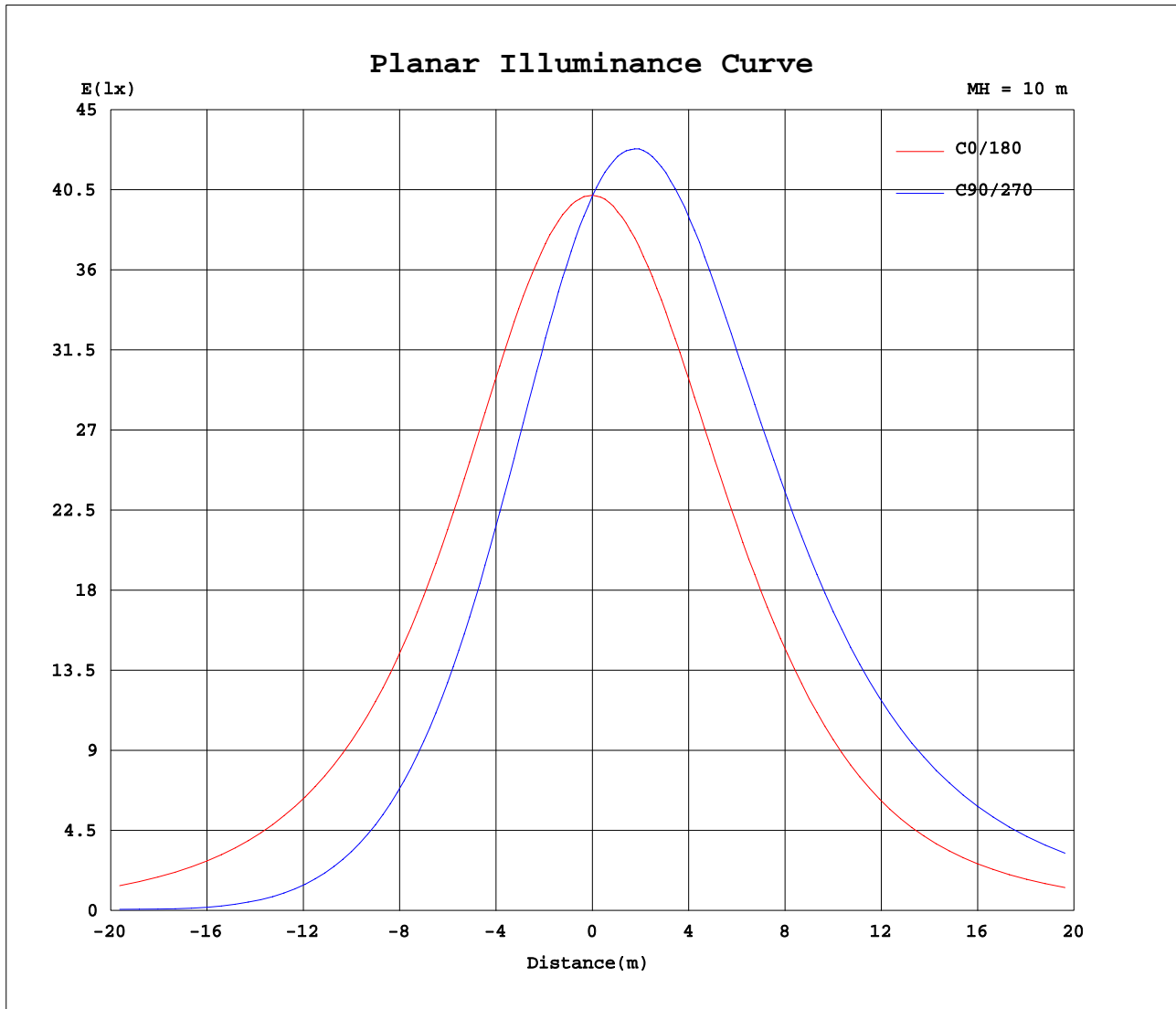
AvgL	cd/m2
L_0~180(65)av	59988
L_0~180(75)av	37323
L_0~180(85)av	13243
L_90~270(65)av	77509
L_90~270(75)av	77553
L_90~270(85)av	21901
L_45(65)av	64307
L_45(75)av	59001
L_45(85)av	39099

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:

```