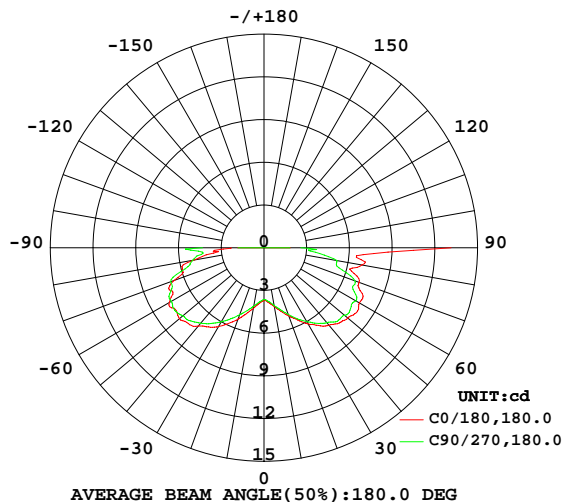


## LUMINAIRE PHOTOMETRIC TEST REPORT

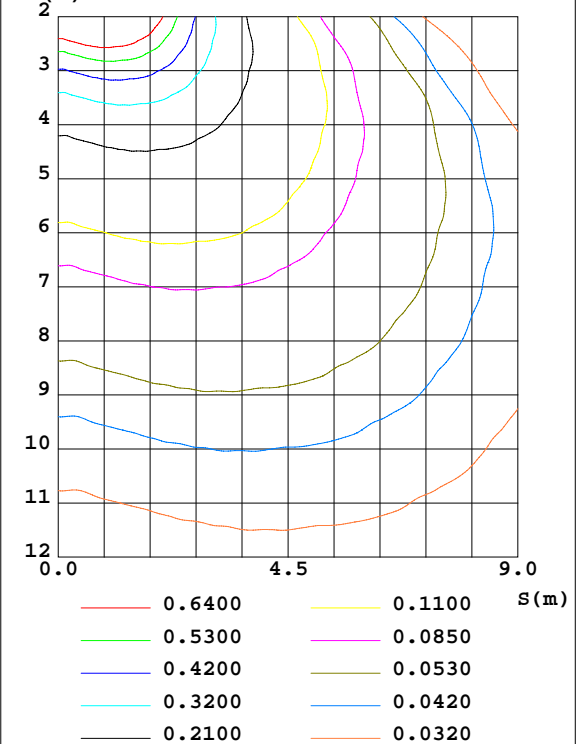
Test:U:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 0.88 lm/W
MODEL		Imax(cd)	13.14	S/MH(C0/180)	2.48	
NOMINAL POWER(W)	45	LOR(%)	99.9	S/MH(C90/270)	2.49	
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	40.098	$\eta$ UP,DN(C0-180)	0.0,51.2	
NOMINAL FLUX(lm)	40.1191	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,48.7	
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	2.00	
TEST VOLTAGE(V)	230.0	$\eta$ down(%)	99.9	CIBSE SHR MAX	2.00	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

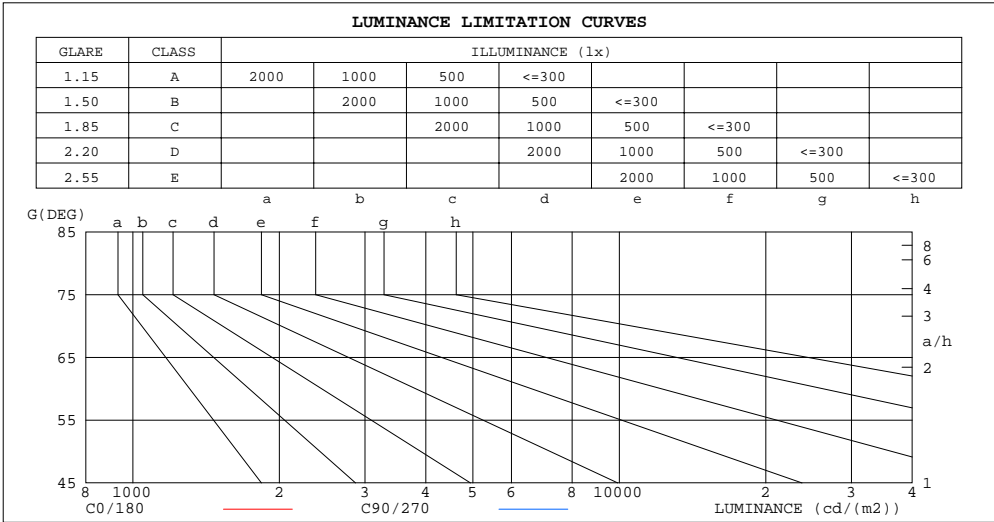
$\gamma$	C0	C90	C180	C270					$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	4.200	4.117	4.322	4.175					0- 10	0.3788	0.3788	0.94,0.94
20	5.094	4.984	5.337	4.998					10- 20	1.328	1.707	4.26,4.25
30	6.175	5.990	6.394	6.019					20- 30	2.616	4.323	10.8,10.8
40	7.104	6.873	7.186	6.914					30- 40	4.158	8.481	21.2,21.1
50	7.689	7.366	7.748	7.440					40- 50	5.699	14.18	35.4,35.3
60	7.741	7.482	7.671	7.526					50- 60	6.848	21.03	52.4,52.4
70	7.113	6.793	6.716	6.976					60- 70	7.196	28.22	70.4,70.4
80	6.984	5.204	4.980	5.082					70- 80	6.413	34.64	86.4,86.3
90	13.14	2.586	2.302	4.321					80- 90	5.461	40.10	100,99.9
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: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	831	464
80	447	333
75	273	234
70	231	221
65	200	181
60	172	166
55	154	144
50	133	127
45	118	115

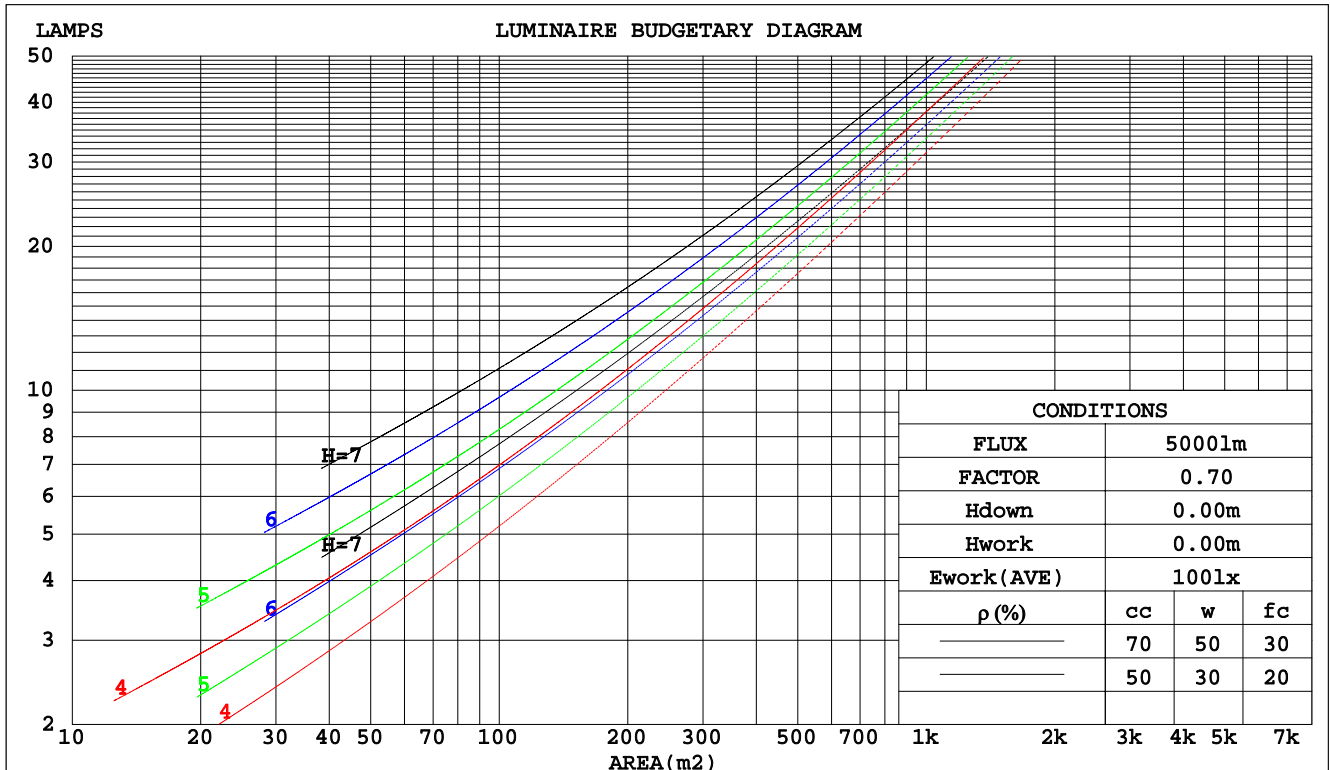
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	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	.00
1.0	.94	.87	.81	.91	.85	.79	.87	.82	.77	.83	.78	.74	.79	.75	.72	.69
2.0	.78	.68	.60	.75	.66	.59	.72	.64	.57	.68	.61	.56	.65	.59	.54	.52
3.0	.65	.54	.46	.64	.53	.45	.60	.52	.44	.57	.50	.43	.54	.48	.43	.40
4.0	.56	.45	.36	.55	.44	.36	.52	.43	.35	.49	.41	.35	.47	.40	.34	.32
5.0	.49	.38	.30	.48	.37	.29	.45	.36	.29	.43	.35	.29	.41	.34	.28	.26
6.0	.43	.33	.25	.42	.32	.25	.40	.31	.24	.38	.30	.24	.37	.29	.24	.21
7.0	.39	.28	.21	.38	.28	.21	.36	.27	.21	.34	.26	.20	.33	.26	.20	.18
8.0	.35	.25	.18	.34	.25	.18	.33	.24	.18	.31	.23	.18	.30	.23	.17	.15
9.0	.32	.22	.16	.31	.22	.16	.30	.21	.16	.28	.21	.15	.27	.20	.15	.13
10.0	.29	.20	.14	.28	.20	.14	.27	.19	.14	.26	.19	.14	.25	.18	.14	.12



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.: 300*300			SERIAL No.:		
MFR.: NLD242026			SUR.:0.3*0.3			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	.500	.284	.090	.492	.281	.089	.478	.274	.088	.465	.268	.086	.453	.262	.085	
2.0	.415	.227	.070	.408	.225	.069	.395	.220	.068	.384	.215	.067	.373	.211	.066	
3.0	.359	.191	.057	.353	.189	.057	.341	.185	.056	.331	.181	.056	.321	.178	.055	
4.0	.317	.164	.048	.311	.163	.048	.301	.160	.048	.292	.157	.047	.283	.154	.047	
5.0	.283	.144	.042	.278	.143	.042	.269	.140	.041	.261	.138	.041	.253	.135	.041	
6.0	.256	.128	.037	.252	.127	.037	.244	.125	.036	.236	.123	.036	.229	.121	.036	
7.0	.233	.115	.033	.230	.114	.033	.223	.113	.032	.216	.111	.032	.210	.109	.032	
8.0	.214	.105	.029	.211	.104	.029	.205	.102	.029	.199	.101	.029	.193	.099	.029	
9.0	.198	.096	.027	.195	.095	.027	.190	.094	.027	.184	.092	.026	.179	.091	.026	
10.0	.184	.088	.025	.182	.088	.024	.177	.086	.024	.172	.085	.024	.167	.084	.024	

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	.193	.154	.119	.165	.132	.103	.113	.091	.071	.065	.053	.041	.021	.017	.013	
2.0	.189	.131	.083	.162	.113	.072	.111	.078	.050	.064	.045	.029	.020	.015	.010	
3.0	.182	.115	.062	.156	.099	.053	.107	.069	.038	.062	.040	.022	.020	.013	.007	
4.0	.173	.102	.048	.149	.089	.042	.102	.062	.030	.059	.036	.017	.019	.012	.006	
5.0	.165	.093	.039	.142	.080	.034	.098	.056	.024	.057	.033	.014	.018	.011	.005	
6.0	.157	.085	.033	.135	.073	.029	.093	.051	.020	.054	.030	.012	.017	.010	.004	
7.0	.148	.078	.028	.128	.068	.025	.088	.047	.018	.051	.028	.010	.017	.009	.003	
8.0	.141	.072	.025	.121	.063	.022	.084	.044	.015	.049	.026	.009	.016	.008	.003	
9.0	.134	.067	.022	.115	.058	.019	.080	.041	.014	.046	.024	.008	.015	.008	.003	
10.0	.127	.063	.020	.109	.055	.018	.076	.038	.012	.044	.023	.007	.014	.007	.002	

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2024-07-25

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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.: 300*300			SERIAL No.:			
MFR.: NLD242026					SUR.:0.3*0.3			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		6.8	8.7	7.1	8.9	9.2	6.6	8.5	6.9	8.7	8.9
3H		9.8	11.5	10.1	11.8	12.1	9.5	11.3	9.8	11.5	11.8
4H		11.3	13.0	11.6	13.2	13.5	10.8	12.5	11.1	12.8	13.1
6H		13.2	14.8	13.5	15.1	15.4	12.3	13.9	12.6	14.2	14.5
8H		14.4	16.0	14.8	16.3	16.6	13.0	14.6	13.4	14.9	15.2
12H		15.6	17.1	15.9	17.4	17.7	13.7	15.3	14.1	15.6	15.9
4H 2H		7.8	9.5	8.2	9.8	10.1	7.6	9.3	8.0	9.6	9.9
3H		10.9	12.4	11.3	12.8	13.1	10.7	12.2	11.1	12.5	12.9
4H		12.5	13.9	12.9	14.3	14.6	12.1	13.5	12.5	13.9	14.2
6H		14.6	15.9	15.1	16.3	16.7	13.8	15.1	14.2	15.5	15.9
8H		16.0	17.2	16.4	17.6	18.0	14.7	15.9	15.1	16.3	16.7
12H		17.2	18.4	17.7	18.8	19.2	15.5	16.6	15.9	17.0	17.5
8H 4H		13.1	14.4	13.6	14.7	15.1	12.8	14.0	13.2	14.4	14.8
6H		15.6	16.7	16.1	17.1	17.5	14.9	16.0	15.3	16.4	16.8
8H		17.1	18.1	17.6	18.5	19.0	16.0	16.9	16.4	17.4	17.8
12H		18.6	19.4	19.1	19.9	20.4	16.9	17.8	17.4	18.3	18.7
12H 4H		13.3	14.5	13.8	14.9	15.3	13.1	14.2	13.5	14.6	15.0
6H		15.9	16.9	16.4	17.3	17.8	15.3	16.2	15.7	16.7	17.1
8H		17.5	18.3	18.0	18.8	19.3	16.4	17.3	16.9	17.8	18.2
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 40.12 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = -11.2$ )

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2024-07-25

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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:

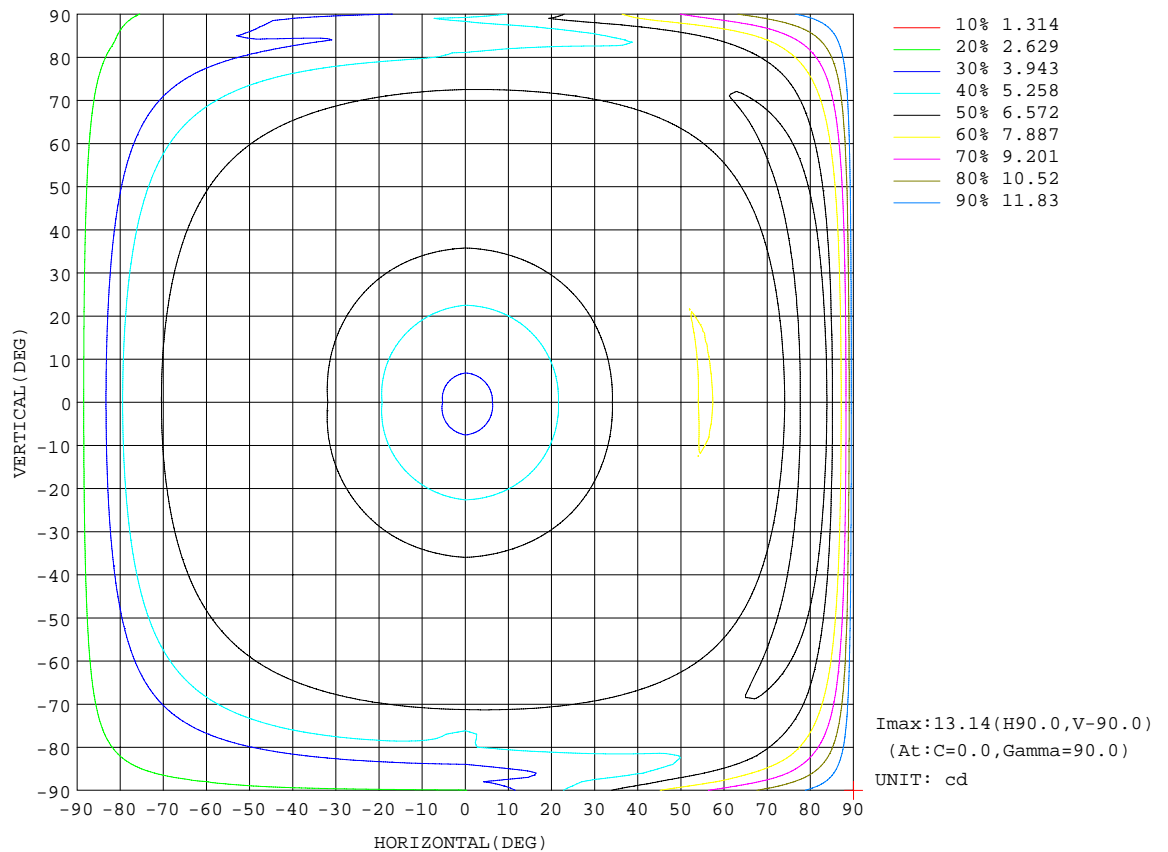
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	45	31	22	44	31	22	43	30	22	15
0.80	54	39	30	53	39	30	51	38	30	21
1.00	62	47	38	60	47	38	58	49	37	28
1.25	69	55	45	67	54	45	64	53	44	35
1.50	75	61	51	73	60	51	69	58	50	40
2.00	83	70	61	81	69	60	76	67	59	48
2.50	88	76	67	85	75	66	81	72	65	54
3.00	92	82	73	90	80	72	85	77	70	59
4.00	98	89	81	95	87	80	90	83	77	66
5.00	101	93	86	98	91	85	93	87	82	71
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
 C Interval: 90.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.119lx1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:



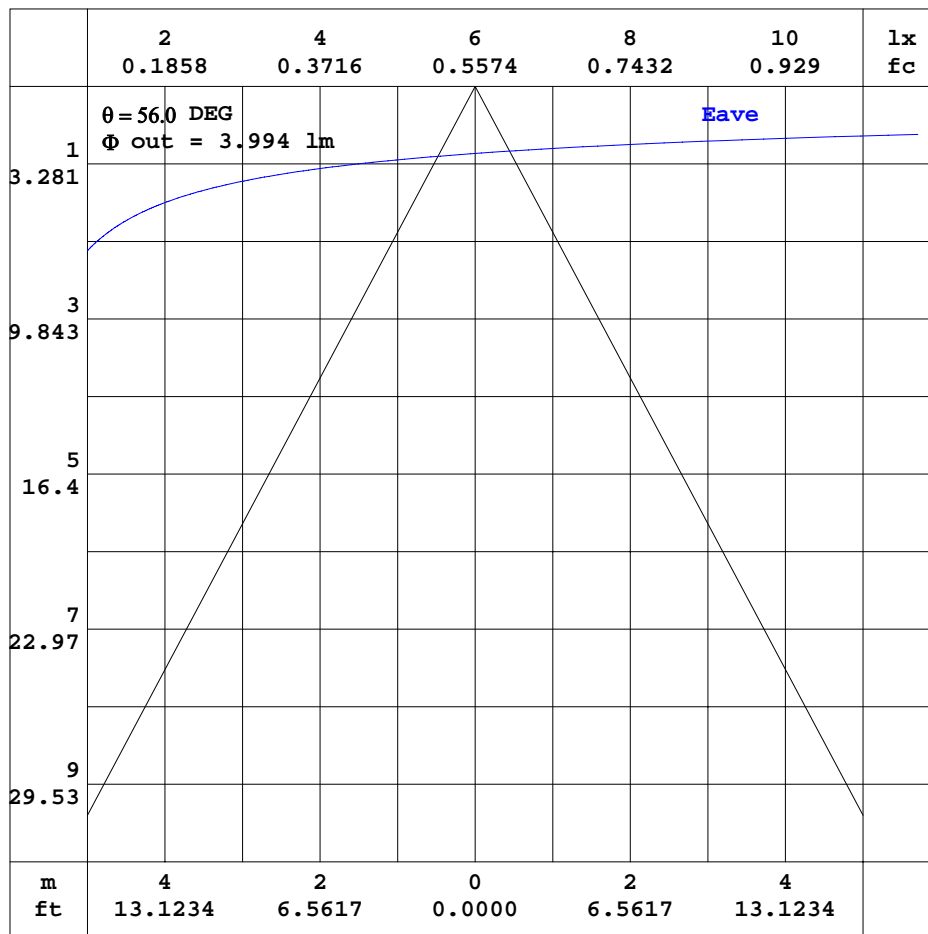
C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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 CURVES

Test:U:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:



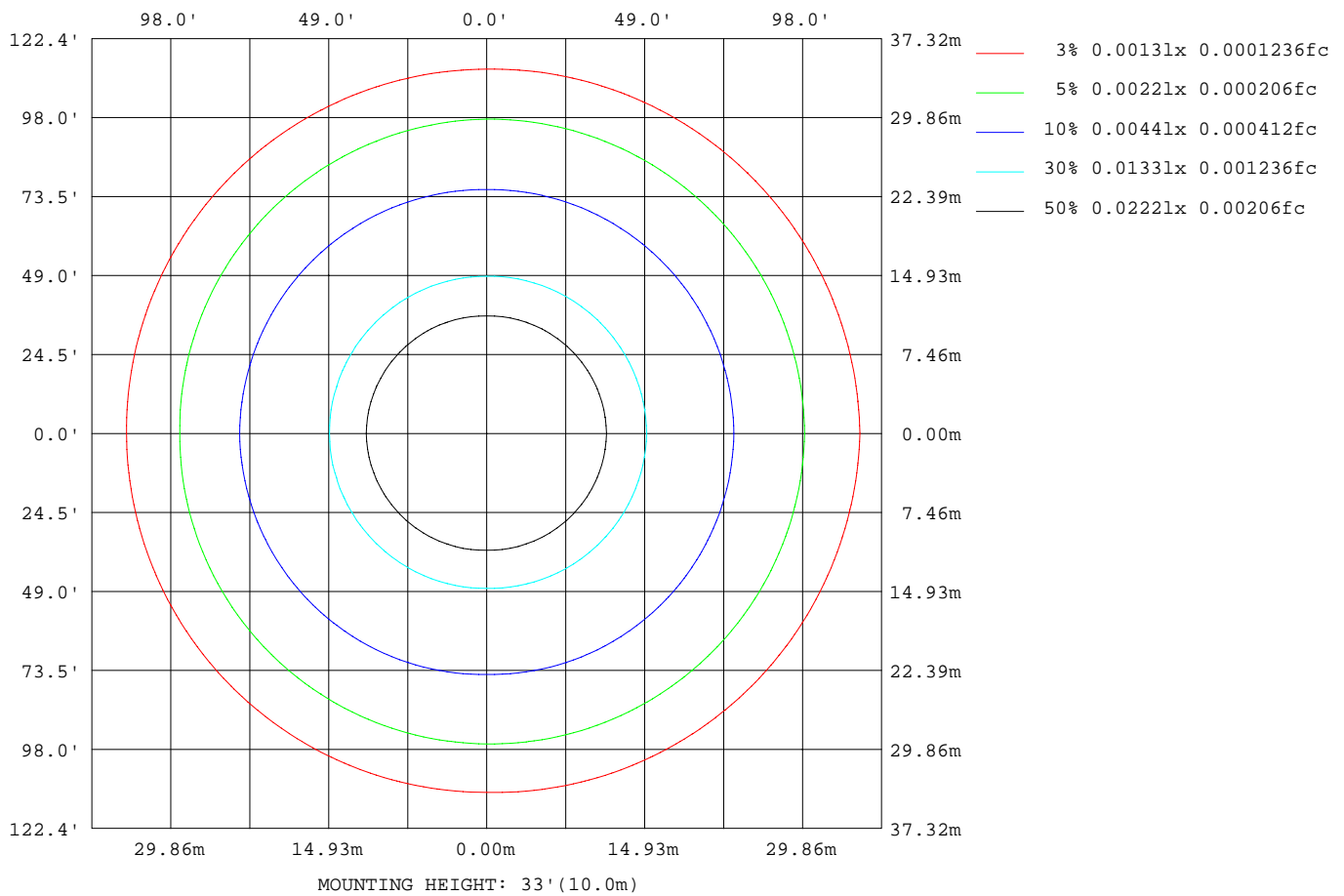
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.119lx1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:229.68V I:0.2057A P:45.348W PF:0.9601 Freq:49.99Hz Lamp Flux:40.1191x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 300*300	SERIAL No.:
MFR.: NLD242026	SUR.:0.3*0.3	Shielding Angle:

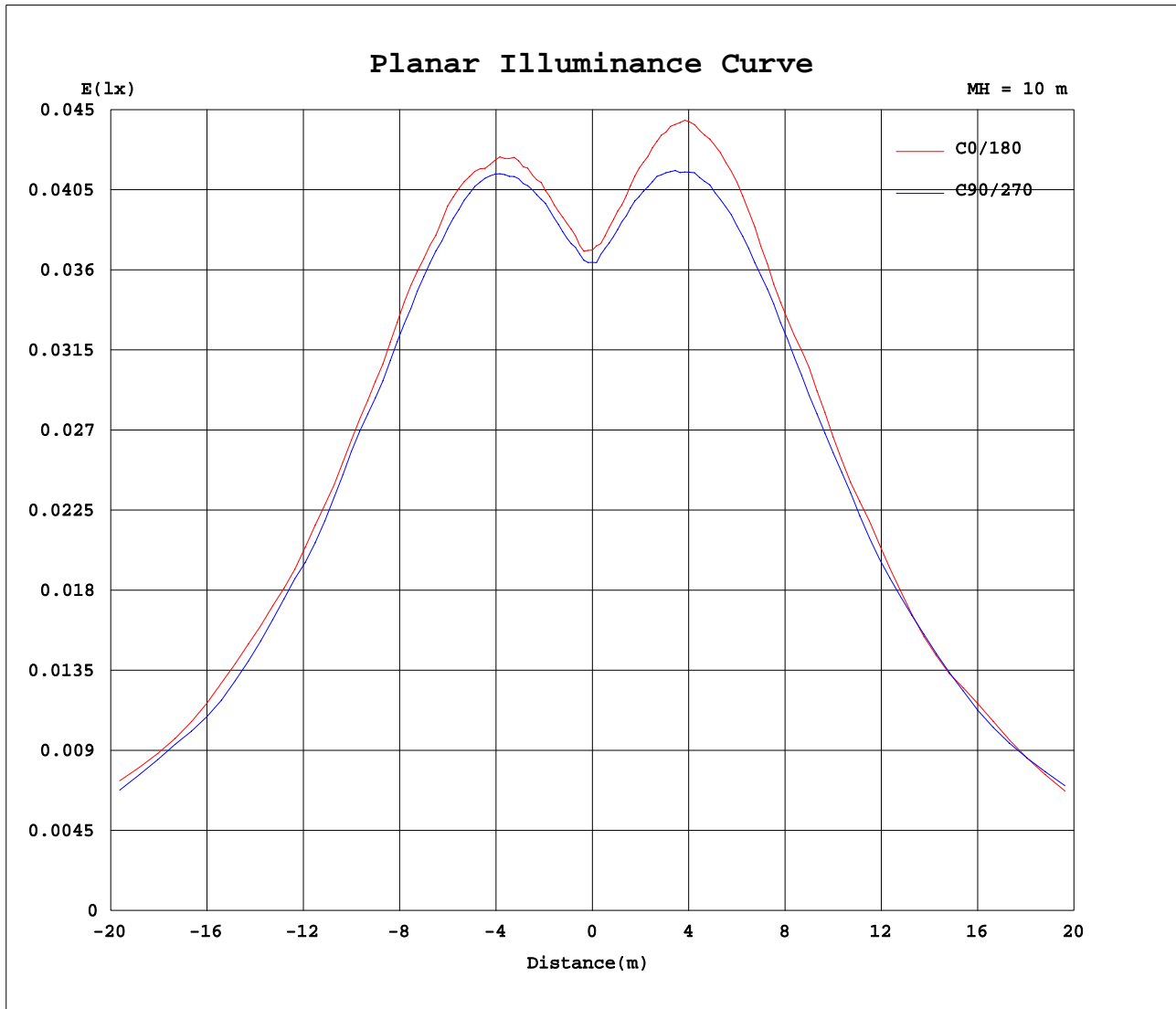
AvgL	cd/m2
L_0~180(65)av	194
L_0~180(75)av	264
L_0~180(85)av	620
L_90~270(65)av	186
L_90~270(75)av	240
L_90~270(85)av	505
L_45(65)av	188
L_45(75)av	249
L_45(85)av	535

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 90.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2024-07-25

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: 90.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2024-07-25

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

```