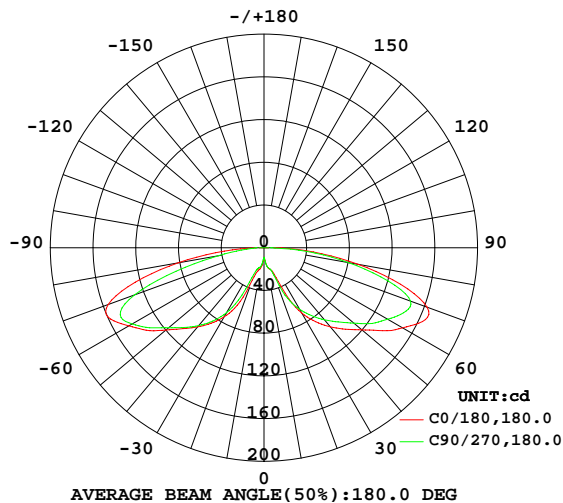


LUMINAIRE PHOTOMETRIC TEST REPORT

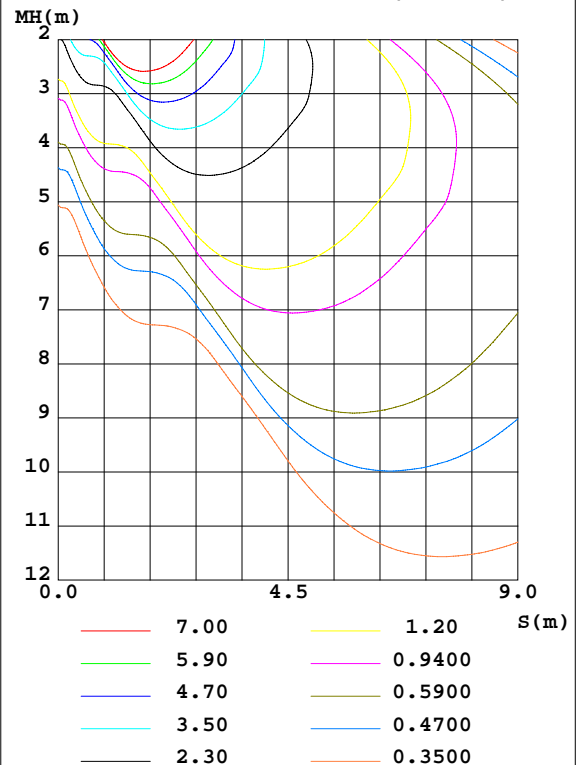
Test:U:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 51.10 lm/W
MODEL		Imax(cd)	166.5	S/MH(C0/180)	5.24	
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	4.80	
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	607.67	η UP,DN(C0-180)	0.0,51.1	
NOMINAL FLUX(lm)	607.67	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.9	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50	
TEST VOLTAGE(V)	230.0	η down(%)	100.0	CIBSE SHR MAX	1.55	

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:2023-12-21

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:

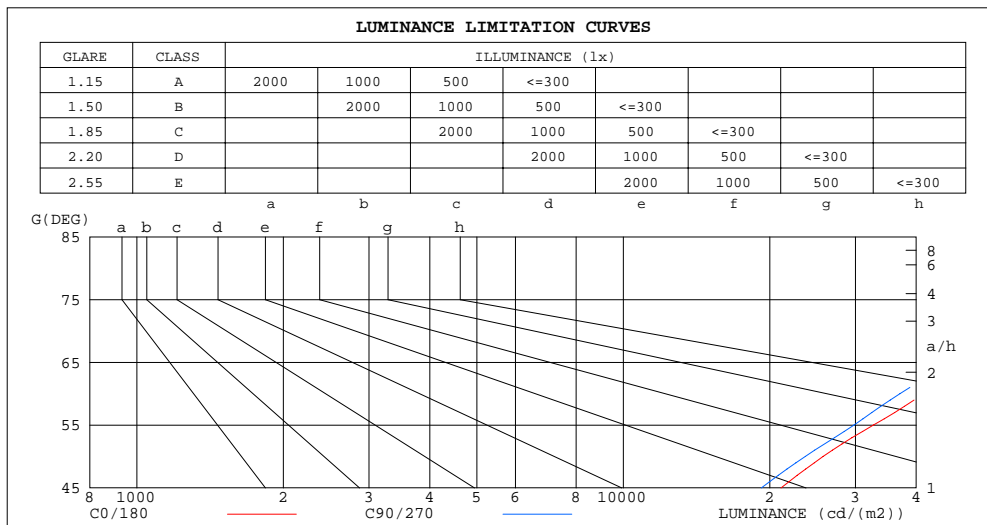
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	18.03	18.35	18.21	19.28	19.52	18.75	17.75	17.66	0- 10	1.422	1.422	0.23,0.23
20	24.29	26.35	27.86	31.27	32.15	28.10	23.96	23.43	10- 20	6.159	7.581	1.25,1.25
30	70.45	72.16	66.40	73.78	74.68	71.81	70.18	69.40	20- 30	24.15	31.74	5.22,5.22
40	96.71	96.56	88.04	96.38	96.72	94.68	95.21	95.50	30- 40	52.88	84.61	13.9,13.9
50	119.7	119.5	110.0	119.4	119.9	117.7	116.5	117.1	40- 50	82.19	166.8	27.4,27.4
60	150.0	148.4	133.9	145.0	146.3	144.8	142.7	145.7	50- 60	118.4	285.2	46.9,46.9
70	162.4	161.4	146.0	159.1	155.2	157.5	128.9	160.5	60- 70	152.9	438.1	72.1,72.1
80	89.43	91.37	80.46	85.52	81.62	74.00	43.46	77.87	70- 80	126.8	564.9	93,93
90	9.124	11.86	5.962	8.643	6.770	7.519	6.349	10.32	80- 90	42.73	607.7	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:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	73542	64086
80	71234	64088
75	70727	64345
70	65679	59050
65	53560	47174
60	41501	37033
55	32658	29804
50	25752	23660
45	21100	19223

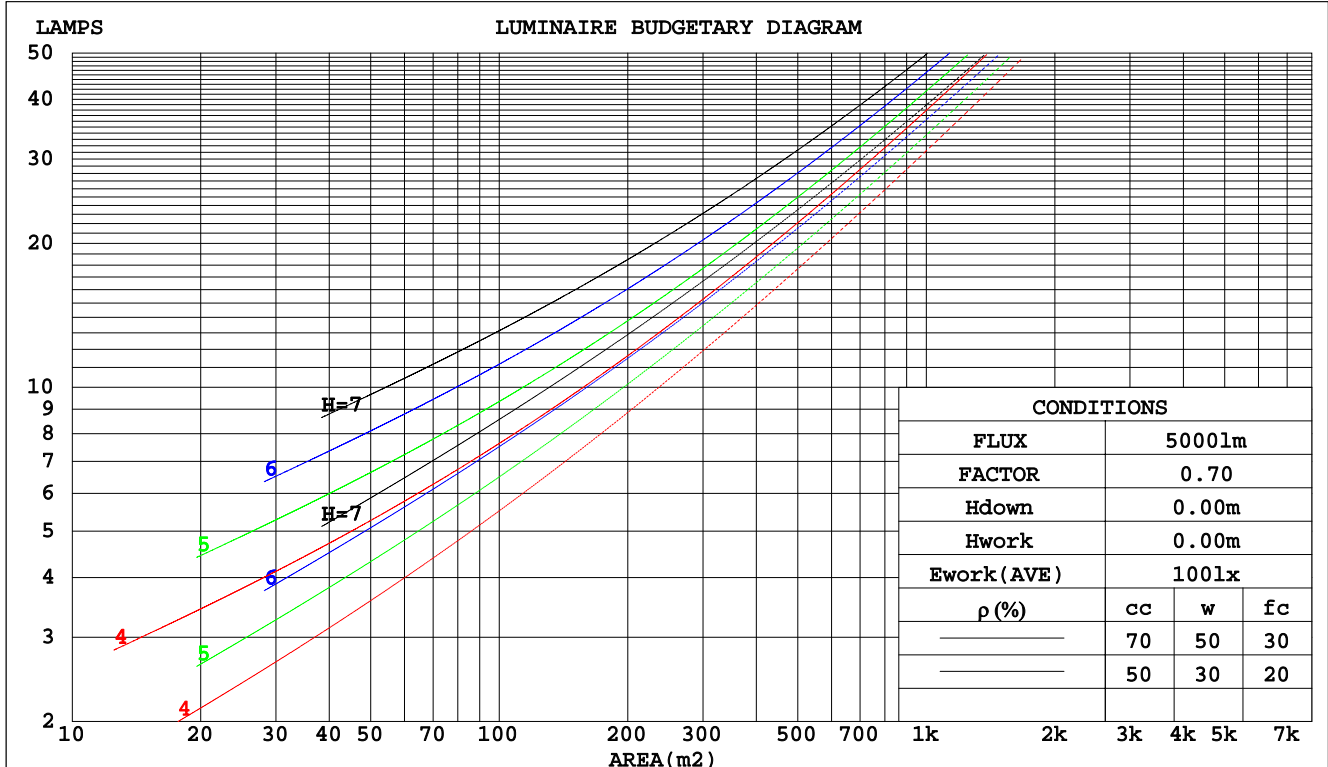
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	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	.95	.88	.82	.93	.87	.81	.88	.83	.78	.84	.80	.76	.80	.77	.73	.71
2.0	.77	.67	.58	.75	.66	.58	.71	.63	.56	.67	.61	.55	.64	.58	.53	.51
3.0	.63	.52	.43	.62	.51	.42	.58	.49	.42	.55	.47	.41	.52	.46	.40	.37
4.0	.53	.42	.33	.52	.41	.32	.49	.39	.32	.46	.38	.31	.44	.37	.31	.28
5.0	.46	.34	.26	.44	.33	.25	.42	.32	.25	.40	.31	.24	.38	.30	.24	.21
6.0	.40	.29	.20	.39	.28	.20	.37	.27	.20	.35	.26	.20	.33	.25	.19	.17
7.0	.35	.24	.17	.34	.24	.17	.32	.23	.16	.31	.22	.16	.29	.22	.16	.14
8.0	.31	.21	.14	.31	.21	.14	.29	.20	.14	.28	.19	.14	.26	.19	.13	.11
9.0	.28	.18	.12	.27	.18	.12	.26	.18	.12	.25	.17	.11	.24	.17	.11	.09
10.0	.26	.16	.10	.25	.16	.10	.24	.16	.10	.23	.15	.10	.22	.15	.10	.08



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm								
NAME:			TYPE:			WEIGHT:		
SPEC.:			DIM.: 100*120			SERIAL No.:		
MFR.: NLD+23-008-01			SUR.:3.14*0.048*0.048			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	.478	.272	.086	.471	.269	.085	.457	.262	.084	.444	.256	.082	.432	.250	.081		
2.0	.423	.232	.071	.416	.229	.071	.403	.224	.070	.391	.219	.069	.380	.215	.068		
3.0	.373	.198	.059	.366	.196	.059	.355	.192	.058	.344	.189	.058	.334	.185	.057		
4.0	.331	.172	.051	.325	.170	.050	.315	.167	.050	.305	.164	.049	.296	.161	.049		
5.0	.296	.151	.044	.291	.149	.044	.282	.147	.043	.273	.144	.043	.265	.142	.043		
6.0	.267	.134	.038	.263	.133	.038	.255	.131	.038	.247	.128	.038	.240	.126	.038		
7.0	.243	.120	.034	.239	.119	.034	.232	.117	.034	.225	.116	.034	.219	.114	.033		
8.0	.223	.109	.031	.220	.108	.031	.213	.106	.030	.207	.105	.030	.201	.103	.030		
9.0	.206	.099	.028	.203	.099	.028	.197	.097	.028	.191	.096	.027	.186	.095	.027		
10.0	.191	.091	.025	.188	.091	.025	.183	.090	.025	.178	.088	.025	.173	.087	.025		

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	.192	.155	.121	.164	.133	.104	.112	.091	.072	.065	.053	.042	.021	.017	.014	
2.0	.190	.131	.082	.162	.113	.071	.111	.078	.050	.064	.045	.029	.021	.015	.009	
3.0	.184	.115	.060	.158	.099	.052	.108	.069	.036	.063	.040	.021	.020	.013	.007	
4.0	.177	.103	.046	.152	.089	.040	.104	.062	.028	.060	.036	.017	.019	.012	.005	
5.0	.169	.093	.037	.145	.081	.033	.100	.056	.023	.058	.033	.014	.019	.011	.004	
6.0	.160	.085	.031	.138	.074	.027	.095	.052	.019	.055	.030	.012	.018	.010	.004	
7.0	.152	.079	.027	.131	.068	.024	.090	.048	.017	.053	.028	.010	.017	.009	.003	
8.0	.144	.073	.024	.124	.063	.021	.086	.044	.015	.050	.026	.009	.016	.009	.003	
9.0	.137	.068	.021	.118	.059	.019	.082	.041	.013	.048	.024	.008	.015	.008	.003	
10.0	.130	.064	.019	.112	.055	.017	.078	.039	.012	.045	.023	.007	.015	.008	.002	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.: 100*120			SERIAL No.:			
MFR.: NLD+23-008-01					SUR.:3.14*0.048*0.048			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		26.4	28.4	26.7	28.6	28.9	26.2	28.2	26.5	28.4	28.7
3H		30.3	32.1	30.6	32.4	32.7	30.0	31.8	30.3	32.1	32.3
4H		31.8	33.6	32.1	33.8	34.1	31.5	33.3	31.8	33.5	33.8
6H		32.9	34.6	33.2	34.9	35.2	32.5	34.2	32.9	34.5	34.8
8H		33.3	34.9	33.6	35.2	35.5	32.9	34.5	33.3	34.8	35.2
12H		33.5	35.1	33.9	35.5	35.8	33.1	34.7	33.5	35.1	35.4
4H 2H		27.8	29.5	28.1	29.8	30.1	27.7	29.4	28.0	29.7	30.0
3H		31.5	33.1	31.9	33.5	33.8	31.4	33.0	31.8	33.3	33.6
4H		33.1	34.6	33.5	34.9	35.3	33.0	34.5	33.4	34.8	35.2
6H		34.3	35.7	34.7	36.0	36.4	34.2	35.5	34.6	35.9	36.3
8H		34.8	36.0	35.2	36.4	36.8	34.6	35.8	35.0	36.2	36.6
12H		35.1	36.3	35.6	36.7	37.1	34.9	36.1	35.3	36.5	36.9
8H 4H		33.7	35.0	34.1	35.4	35.8	33.6	34.9	34.0	35.2	35.7
6H		35.1	36.2	35.6	36.6	37.0	35.0	36.1	35.4	36.5	36.9
8H		35.7	36.6	36.1	37.1	37.5	35.6	36.5	36.0	37.0	37.4
12H		36.2	37.0	36.6	37.4	37.9	36.0	36.8	36.5	37.3	37.8
12H 4H		33.8	35.0	34.2	35.4	35.8	33.7	34.9	34.1	35.3	35.7
6H		35.3	36.2	35.7	36.7	37.1	35.2	36.1	35.6	36.6	37.0
8H		35.9	36.7	36.4	37.2	37.7	35.8	36.6	36.3	37.1	37.6
Variations with the observer position at spacings:											
S = 1.0H		+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H		+ 0.1 / - 0.2					+ 0.2 / - 0.2				
2.0H		+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117, 607.7 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -1.7$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:

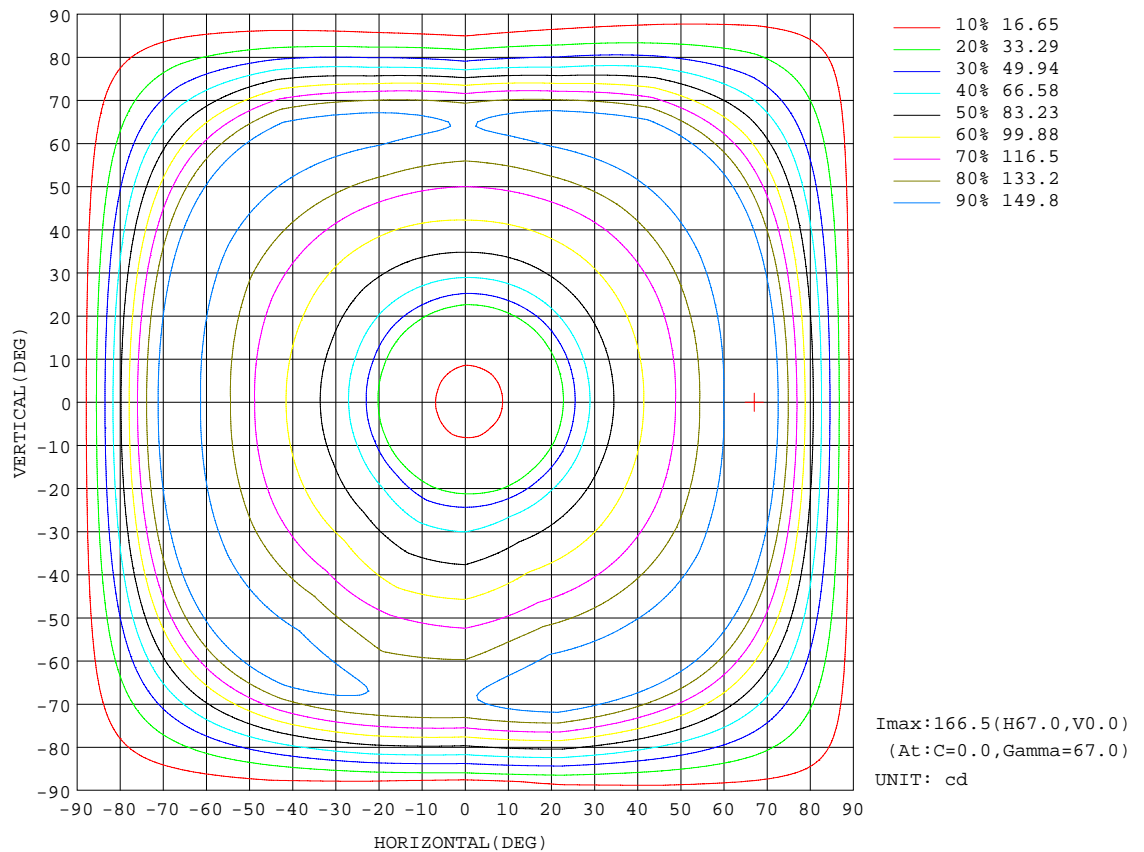
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	41	27	18	40	26	18	39	26	18	10
0.80	50	35	25	49	34	25	47	33	25	15
1.00	58	43	33	57	42	33	54	45	32	22
1.25	66	51	41	64	50	40	61	49	40	30
1.50	72	58	47	70	57	47	66	55	46	36
2.00	81	68	59	79	67	58	75	64	56	46
2.50	87	75	66	85	74	65	80	71	64	53
3.00	92	82	73	90	80	72	85	77	70	59
4.00	98	89	82	96	88	81	91	84	78	67
5.00	102	95	88	99	93	87	94	89	84	73
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:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:

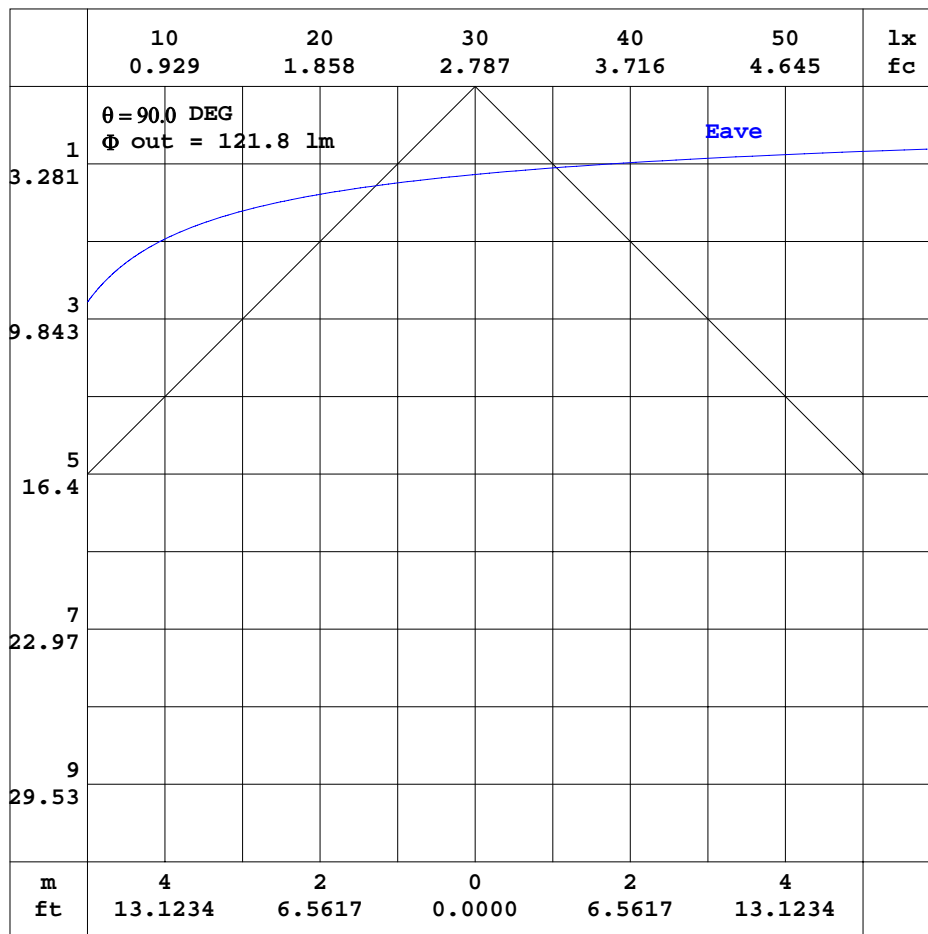


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-12-21

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 CURVES

Test:U:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:



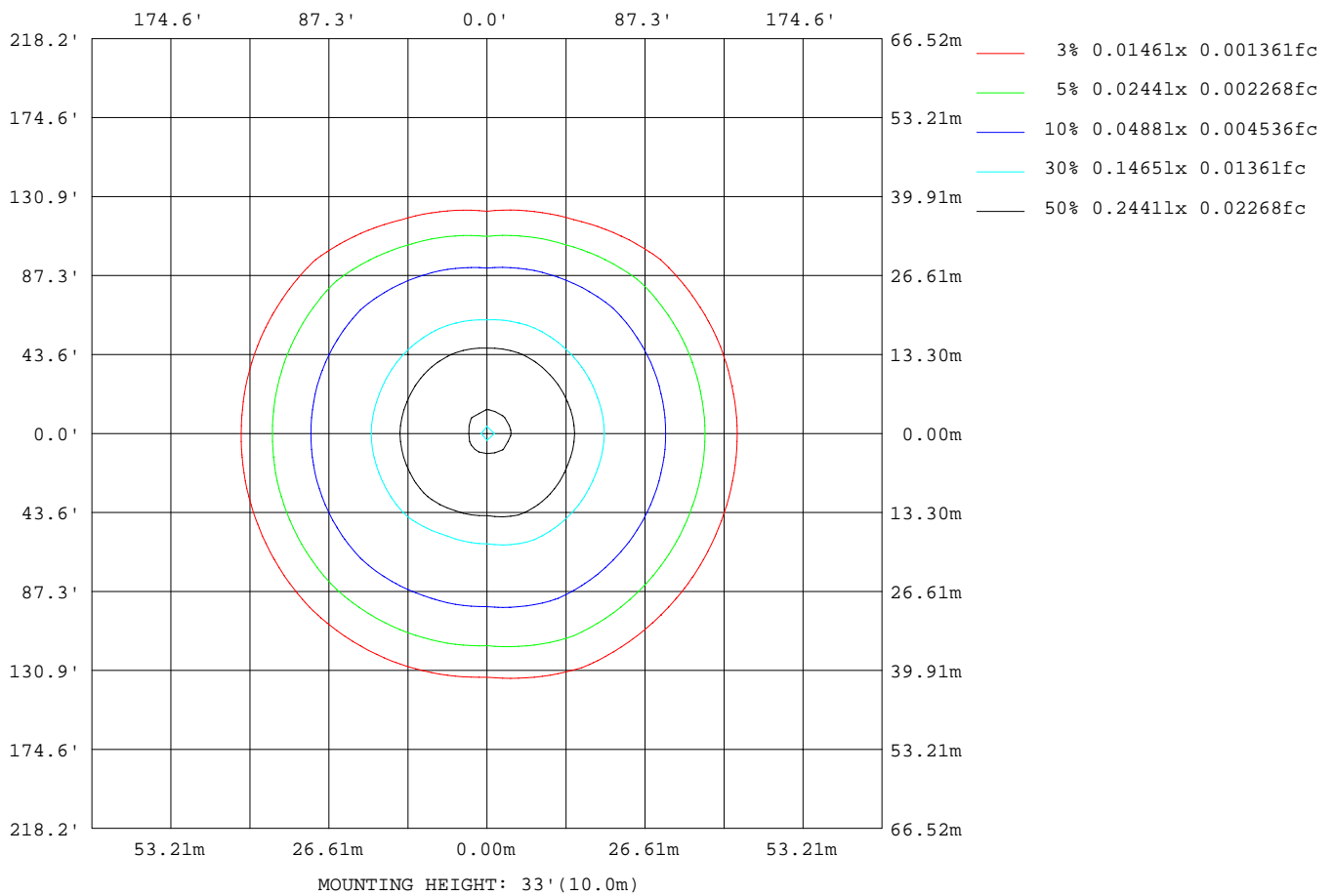
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-12-21

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:229.54V I:0.0540A P:11.892W PF:0.9587 Freq:49.99Hz Lamp Flux:607.67x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 100*120	SERIAL No.:
MFR.: NLD+23-008-01	SUR.:3.14*0.048*0.048	Shielding Angle:

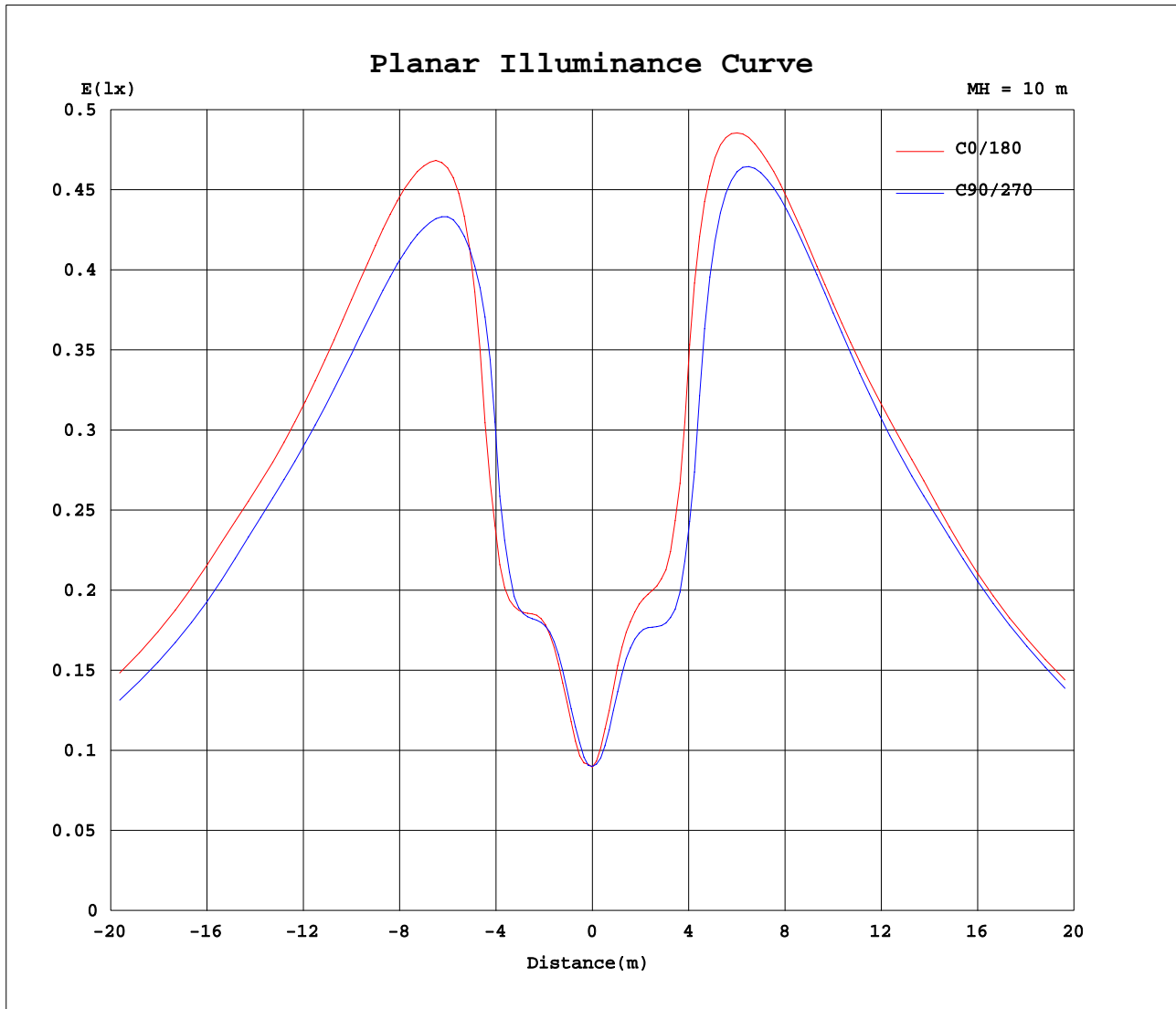
AvgL	cd/m2
L_0~180(65)av	52684
L_0~180(75)av	68687
L_0~180(85)av	66387
L_90~270(65)av	47897
L_90~270(75)av	55006
L_90~270(85)av	44993
L_45(65)av	51882
L_45(75)av	68795
L_45(85)av	60651

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-12-21

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: 2023-12-21

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:

```