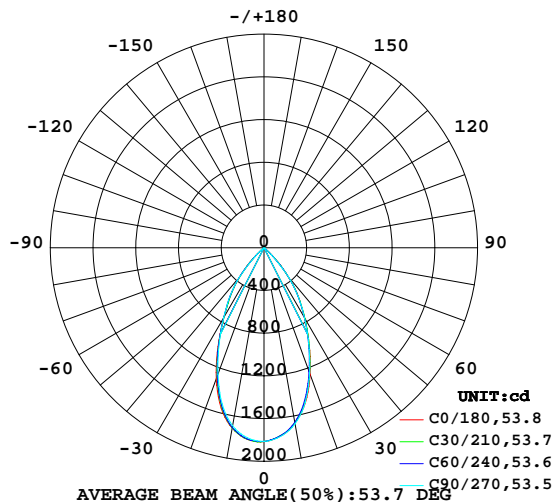


## LUMINAIRE PHOTOMETRIC TEST REPORT

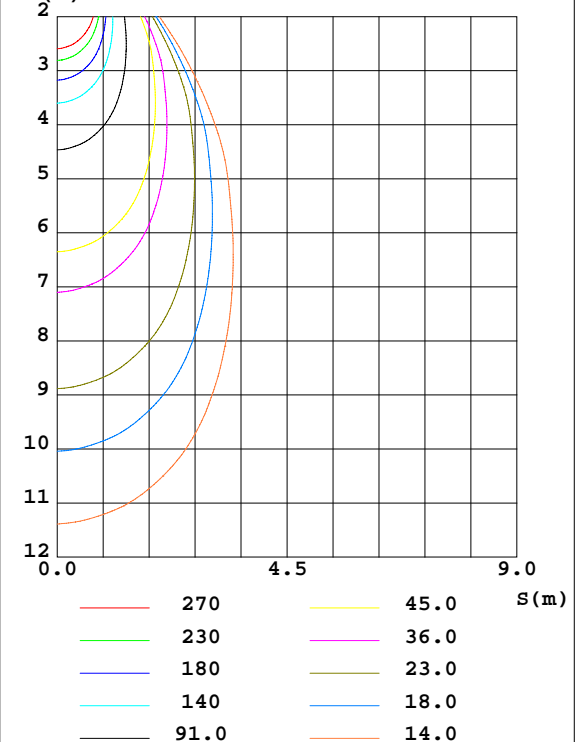
Test:U:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 125.02 lm/W			
MODEL		I <sub>max</sub> (cd)	1819	S/MH(C0/180)	0.84
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	0.82
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	1515.0	η UP,DN(C0-180)	0.0,49.9
NOMINAL FLUX(lm)	1514.97	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	230.0	η down(%)	100.0	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

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:

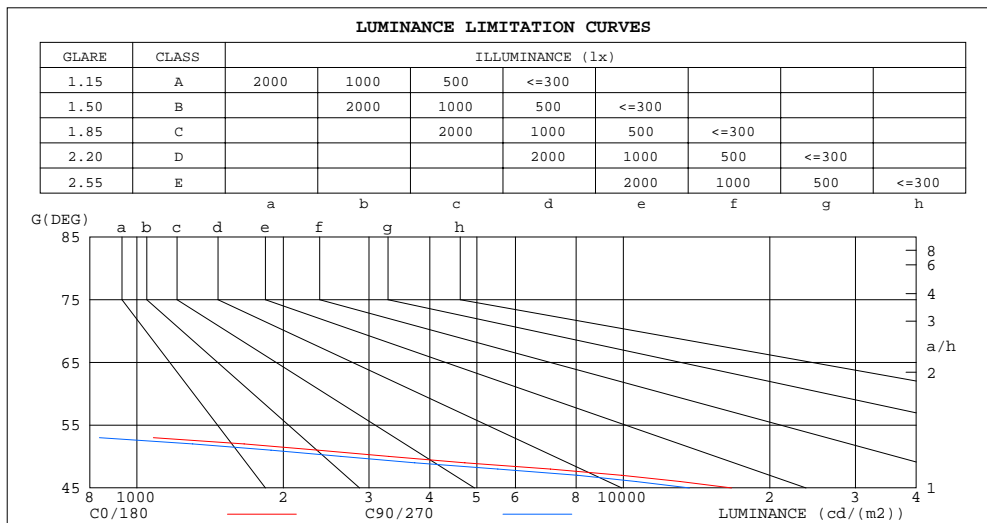
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\Phi$ lum, lamp
10	1668	1662	1674	1692	1715	1711	1692	1672	0- 10	167.1	167.1	11,11
20	1263	1243	1249	1267	1307	1282	1261	1252	10- 20	417.9	585.0	38.6,38.6
30	762.6	763.9	760.2	748.8	750.7	751.6	753.9	759.4	20- 30	457.4	1042	68.8,68.8
40	354.0	354.9	354.7	350.0	350.3	356.1	353.7	356.7	30- 40	342.9	1385	91.4,91.4
50	28.40	34.96	22.64	34.30	25.87	33.40	21.35	34.18	40- 50	121.8	1507	99.5,99.5
60	0.3100	0.3145	0.3086	0.3742	0.3173	0.3183	0.3271	0.2890	50- 60	7.455	1515	100,100
70	0.1546	0.1373	0.0945	0.1461	0.1183	0.1471	0.1720	0.1460	60- 70	0.2198	1515	100,100
80	0.0773	0.0601	0.0601	0.0644	0.1094	0.1190	0.1250	0.1147	70- 80	0.1117	1515	100,100
90	0.0601	0.0558	0.0601	0.0515	0.1031	0.1289	0.1031	0.1160	80- 90	0.0955	1515	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: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2023-07-12

$\gamma$  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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	51	51
80	33	26
75	32	17
70	34	21
65	40	35
60	46	46
55	332	265
50	3297	2629
45	16687	13676

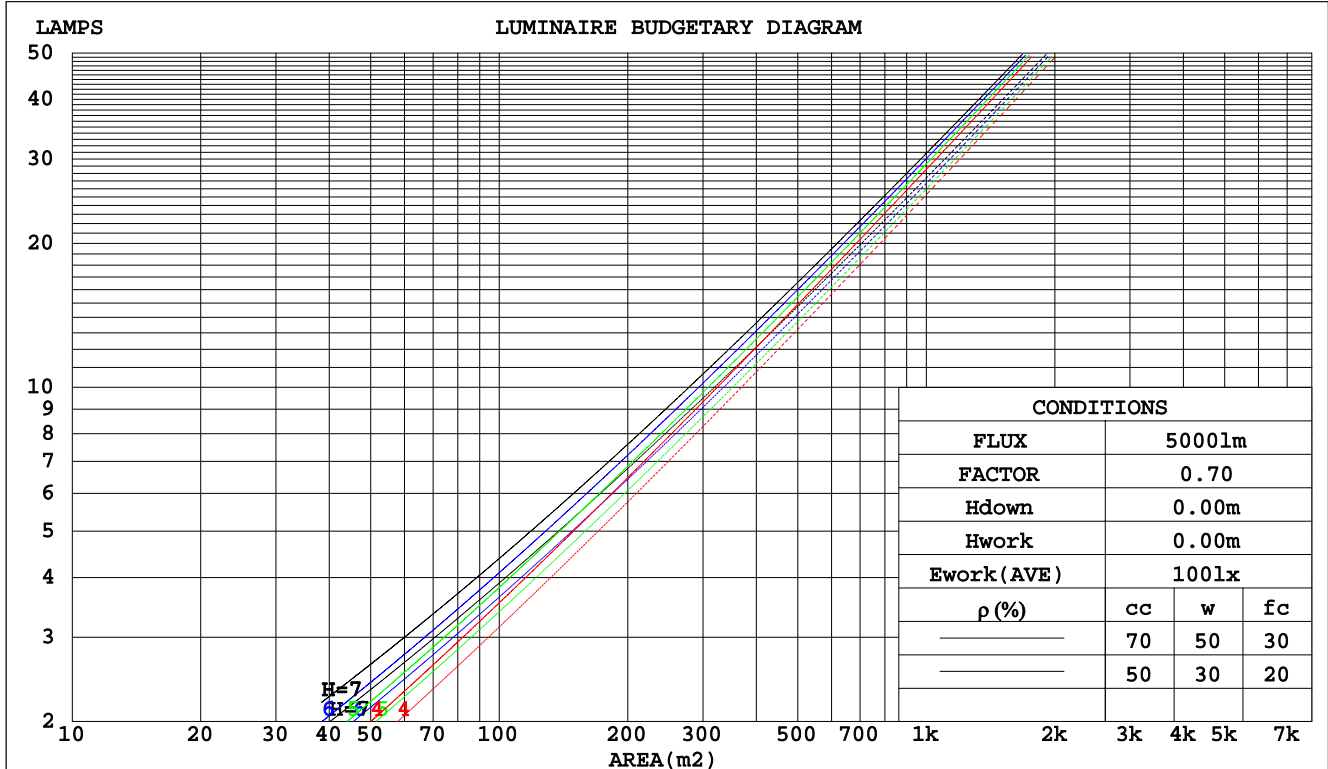
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	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	1.11	1.08	1.06	1.09	1.06	1.04	1.05	1.03	1.01	1.01	.99	.98	.97	.96	.95	.94
2.0	1.03	.99	.96	1.01	.98	.95	.98	.95	.93	.95	.93	.91	.92	.90	.89	.87
3.0	.96	.91	.87	.95	.90	.86	.92	.88	.85	.90	.86	.84	.87	.85	.82	.81
4.0	.90	.84	.80	.89	.83	.80	.86	.82	.79	.84	.81	.78	.83	.79	.77	.75
5.0	.84	.78	.74	.83	.78	.74	.81	.76	.73	.80	.75	.72	.78	.74	.72	.70
6.0	.79	.73	.68	.78	.72	.68	.76	.71	.68	.75	.71	.67	.74	.70	.67	.65
7.0	.74	.68	.64	.73	.68	.64	.72	.67	.63	.71	.66	.63	.70	.66	.63	.61
8.0	.70	.64	.60	.69	.63	.59	.68	.63	.59	.67	.62	.59	.66	.62	.59	.57
9.0	.66	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.55	.63	.58	.55	.54
10.0	.62	.56	.52	.62	.56	.52	.61	.56	.52	.60	.55	.52	.59	.55	.52	.51



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	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	.177	.101	.032	.170	.097	.031	.158	.091	.029	.146	.084	.027	.136	.079	.025	
2.0	.170	.093	.029	.165	.091	.028	.154	.086	.027	.144	.081	.025	.135	.076	.024	
3.0	.163	.087	.026	.158	.085	.025	.149	.081	.025	.140	.077	.024	.133	.073	.023	
4.0	.155	.081	.024	.151	.079	.023	.143	.076	.023	.136	.073	.022	.129	.070	.021	
5.0	.148	.076	.022	.145	.074	.022	.138	.072	.021	.132	.069	.021	.126	.067	.020	
6.0	.142	.071	.020	.139	.070	.020	.133	.068	.020	.127	.066	.019	.122	.064	.019	
7.0	.136	.067	.019	.133	.066	.019	.128	.065	.019	.123	.063	.018	.118	.061	.018	
8.0	.130	.064	.018	.128	.063	.018	.123	.061	.018	.118	.060	.017	.114	.059	.017	
9.0	.125	.060	.017	.122	.060	.017	.118	.058	.017	.114	.057	.016	.110	.056	.016	
10.0	.120	.057	.016	.118	.057	.016	.114	.056	.016	.110	.055	.016	.107	.054	.015	

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	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.156	.132	.113	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.144	.114	.089	.123	.098	.078	.085	.068	.054	.049	.040	.032	.016	.013	.011	
4.0	.134	.099	.072	.115	.085	.063	.079	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.125	.087	.059	.108	.076	.052	.074	.053	.036	.043	.031	.022	.014	.010	.007	
6.0	.118	.078	.049	.101	.068	.043	.070	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.112	.071	.042	.096	.061	.036	.066	.043	.026	.039	.025	.015	.012	.008	.005	
8.0	.106	.064	.036	.091	.056	.031	.063	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.101	.059	.031	.087	.051	.027	.060	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.096	.055	.027	.083	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm											
NAME:			TYPE:			WEIGHT:					
SPEC.:			DIM.: 343*65*42			SERIAL No.:					
MFR.: NLC-015B-05			SUR.:0.32*0.042			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	18.0	19.0	18.3	19.2	19.3	17.9	18.8	18.1	19.0	19.2	
	3H	17.9	18.7	18.1	18.9	19.1	17.7	18.6	18.0	18.8	19.0
	4H	17.8	18.6	18.0	18.8	19.0	17.6	18.4	17.9	18.7	18.9
	6H	17.7	18.5	18.0	18.7	18.9	17.5	18.3	17.8	18.5	18.8
	8H	17.6	18.4	17.9	18.6	18.9	17.5	18.2	17.8	18.5	18.7
	12H	17.6	18.3	17.9	18.6	18.8	17.4	18.1	17.8	18.4	18.7
4H	2H	17.8	18.6	18.0	18.8	19.0	17.6	18.4	17.9	18.7	18.9
	3H	17.6	18.3	17.9	18.6	18.8	17.4	18.1	17.8	18.4	18.7
	4H	17.5	18.1	17.8	18.4	18.7	17.3	18.0	17.7	18.3	18.6
	6H	17.4	18.0	17.8	18.3	18.6	17.2	17.8	17.6	18.1	18.5
	8H	17.3	17.9	17.7	18.2	18.6	17.2	17.7	17.6	18.1	18.4
	12H	17.3	17.8	17.7	18.1	18.5	17.1	17.6	17.6	18.0	18.4
8H	4H	17.3	17.9	17.7	18.2	18.6	17.2	17.7	17.6	18.1	18.4
	6H	17.2	17.7	17.7	18.1	18.5	17.1	17.5	17.5	17.9	18.3
	8H	17.2	17.6	17.6	18.0	18.4	17.0	17.4	17.5	17.8	18.3
	12H	17.1	17.5	17.6	17.9	18.4	17.0	17.3	17.5	17.8	18.2
12H	4H	17.3	17.8	17.7	18.1	18.5	17.1	17.6	17.6	18.0	18.4
	6H	17.2	17.6	17.6	18.0	18.4	17.0	17.4	17.5	17.8	18.3
	8H	17.1	17.5	17.6	17.9	18.4	17.0	17.3	17.5	17.8	18.2
Variations with the observer position at spacings:											
S = 1.0H	+ 2.9 / -34.3					+ 2.8 / -33.8					
1.5H	+ 5.1 / -19.1					+ 5.2 / -19.8					
2.0H	+ 8.4 / -30.0					+ 8.1 / -27.6					

CIE Pub.117, 1515 lm Total Lamp Luminous Flux Corrected ( $8\log(F/F_0) = 1.4$ )

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

$\gamma$  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:

## UTILIZATION FACTORS TABLE

Test:U:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:

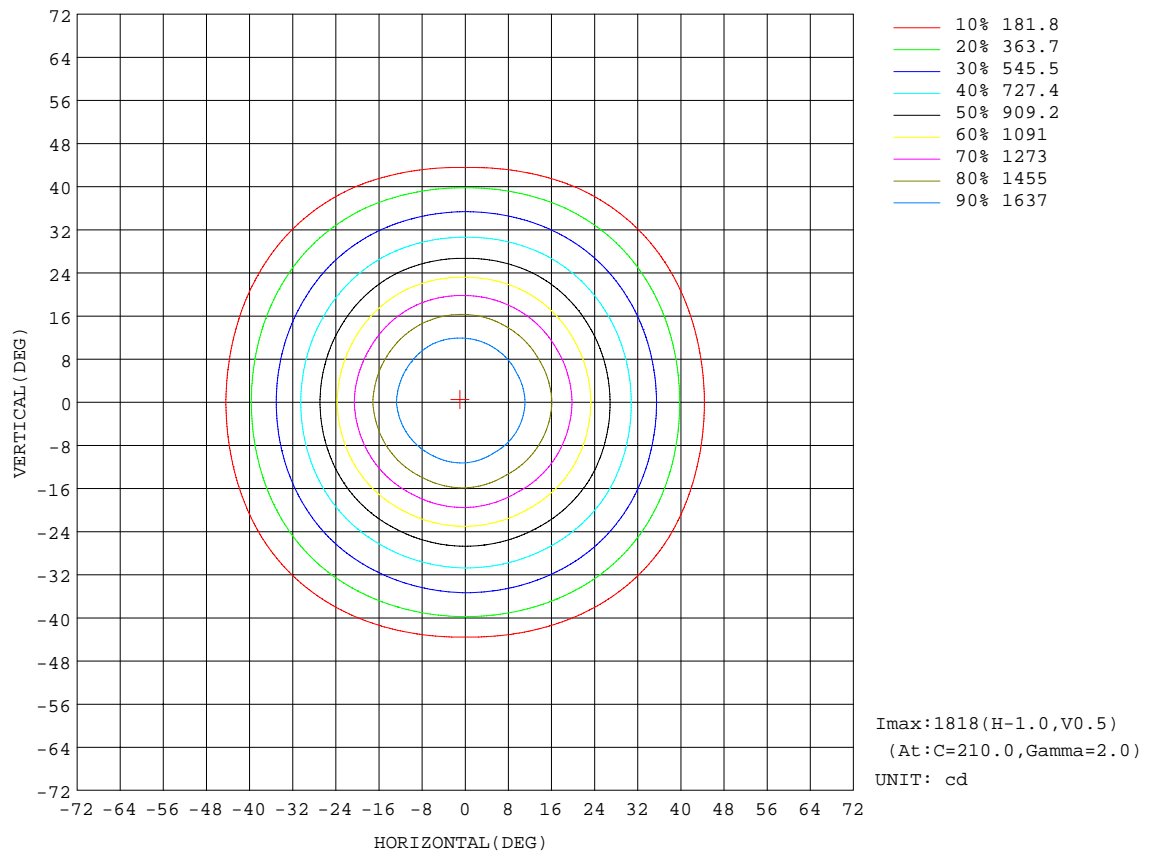
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	86	80	76	86	79	76	85	79	75	72
0.80	94	88	84	93	88	84	92	87	84	80
1.00	99	93	89	98	93	89	96	92	89	85
1.25	103	98	94	102	97	94	100	96	93	89
1.50	106	101	98	104	100	97	102	99	96	91
2.00	108	104	101	107	103	100	104	101	99	94
2.50	110	106	103	109	105	102	105	103	101	95
3.00	112	108	106	110	107	104	107	104	102	96
4.00	114	111	109	112	109	107	108	106	105	97
5.00	115	113	111	113	111	109	109	107	106	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

$\gamma$  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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:



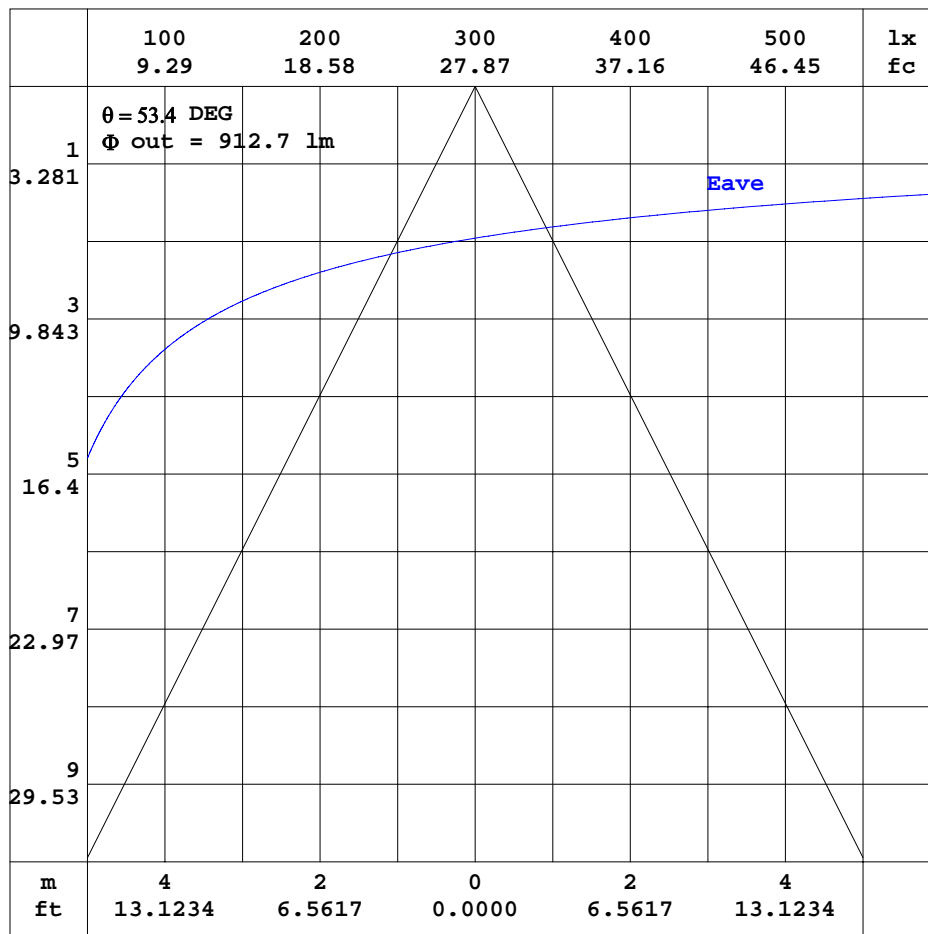
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

$\gamma$  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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:



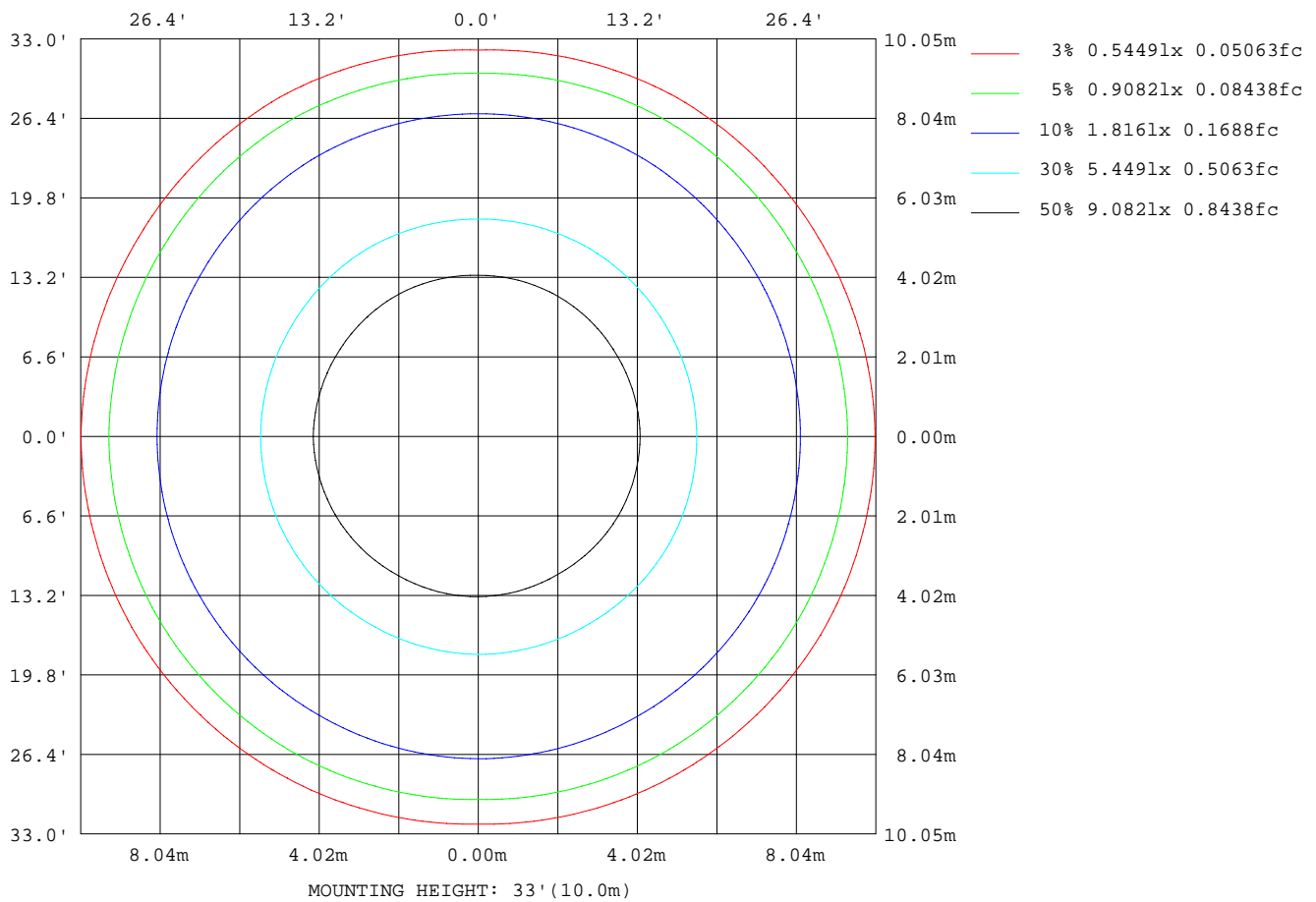
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2023-07-12

$\gamma$  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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2023-07-12

$\gamma$  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:229.72V I:0.0565A P:12.118W PF:0.9329 Freq:50.09Hz Lamp Flux:1514.97x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 343*65*42	SERIAL No.:
MFR.: NLC-015B-05	SUR.:0.32*0.042	Shielding Angle:

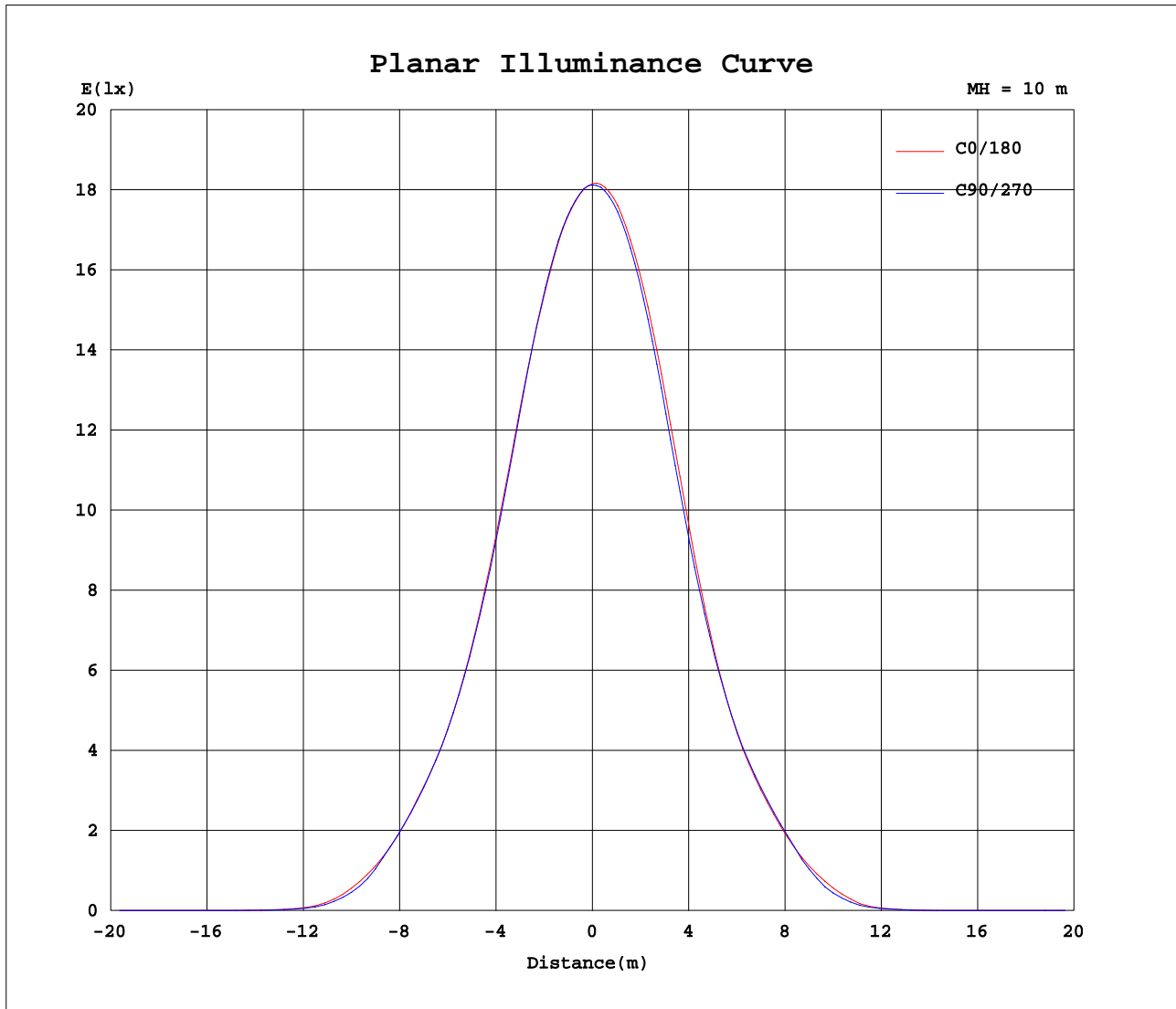
AvgL	cd/m2
L_0~180(65)av	38
L_0~180(75)av	33
L_0~180(85)av	71
L_90~270(65)av	39
L_90~270(75)av	28
L_90~270(85)av	75
L_45(65)av	39
L_45(75)av	29
L_45(85)av	74

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:  
Test Date:2023-07-12

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: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators:  
Test Date: 2023-07-12

$\gamma$  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:

```