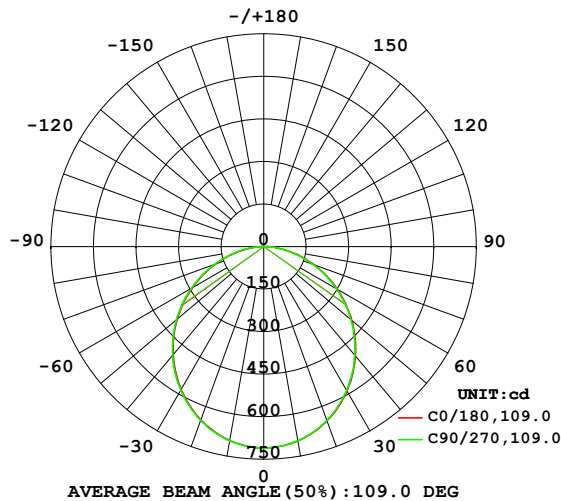


**LUMINAIRE PHOTOMETRIC TEST REPORT**

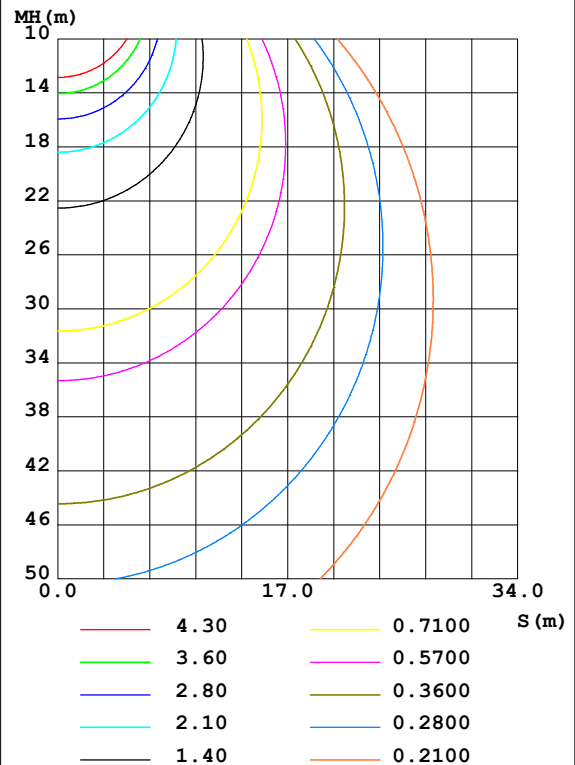
Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.30 lm/W			
CLE315mm	4000lm 840 ADV EM	Imax(cd)	709.8	S/MH(C0/180)	1.23
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	1962.6	$\eta$ UP,DN(C0-180)	0.0,50.2
NOMINAL FLUX(lm)	1962.62	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.8
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	$\eta$ 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:Ky  
Test Date:07 June 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

### ZONAL FLUX DIAGRAM

#### ZONAL FLUX DIAGRAM:

$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	695.8	695.1	694.8	695.3	694.0	694.7	695.0	694.4	0- 10	67.04	67.04	3.42,3.42
20	653.5	652.3	651.8	652.7	650.2	651.4	652.1	651.0	10- 20	190.8	257.9	13.1,13.1
30	587.4	585.8	584.9	586.1	582.6	584.4	585.4	583.7	20- 30	286.1	544.0	27.7,27.7
40	502.9	500.9	499.7	501.1	497.0	499.1	500.4	498.6	30- 40	340.5	884.5	45.1,45.1
50	405.4	403.0	401.5	403.0	398.5	400.8	402.4	400.5	40- 50	348.8	1233	62.8,62.8
60	299.3	296.6	294.9	296.6	291.6	294.0	295.9	294.0	50- 60	312.2	1545	78.7,78.7
70	189.7	186.8	185.0	187.0	182.4	184.4	186.3	185.0	60- 70	238.0	1783	90.9,90.9
80	85.22	82.44	80.82	82.59	77.97	79.65	81.35	80.39	70- 80	139.9	1923	98,98
90	2.055	1.388	1.165	1.286	1.186	1.174	1.175	1.177	80- 90	39.29	1963	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		

Conical surface Flux(90deg): 1060.7 lm

%lum = 54.0%

%lamp = 54.0%

Conical surface Flux(120deg): 1545.5 lm

%lum = 78.7%

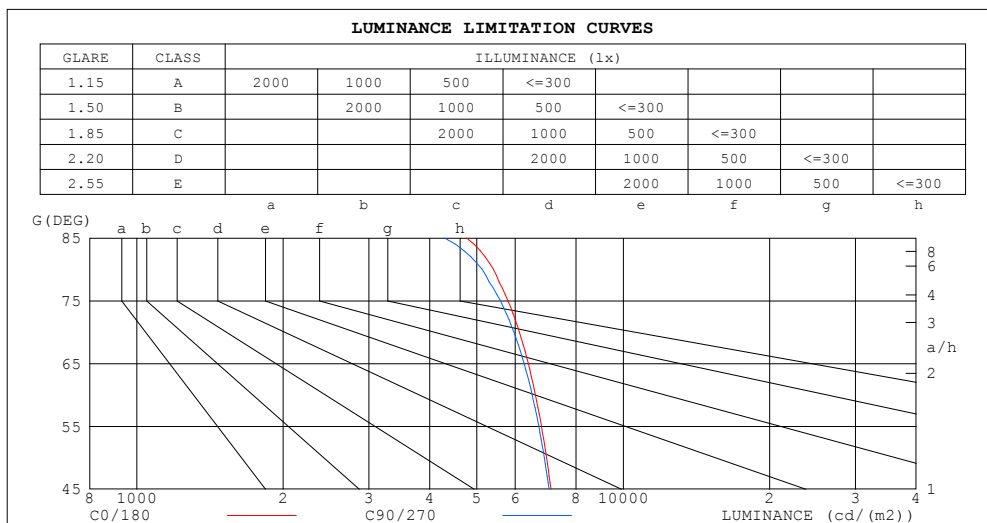
%lamp = 78.7%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

# LUMINANCE LIMITATION CURVES

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	4766	4287
80	5413	5129
75	5794	5589
70	6117	5960
65	6381	6256
60	6602	6500
55	6791	6706
50	6956	6883
45	7104	7042

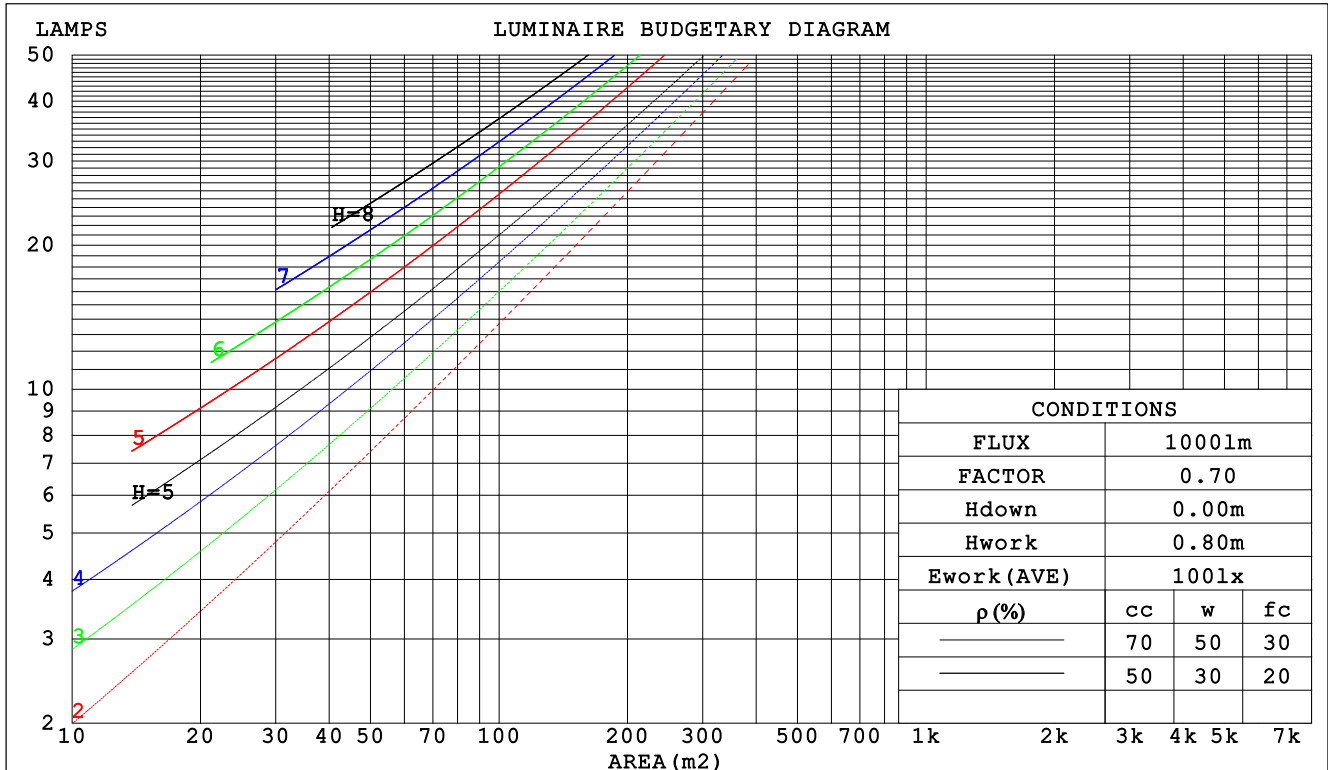
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:

$\rho_{cc}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	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	1.04	.00	.96	1.02	.98	.94	.97	.94	.91	.93	.91	.88	.90	.88	.86	.84
2.0	.90	.84	.78	.89	.82	.77	.85	.80	.75	.82	.77	.73	.79	.75	.72	.70
3.0	.79	.71	.65	.78	.70	.64	.75	.68	.63	.72	.67	.62	.70	.65	.61	.59
4.0	.70	.62	.55	.69	.61	.54	.67	.59	.54	.64	.58	.53	.62	.57	.52	.50
5.0	.63	.54	.47	.62	.53	.47	.60	.52	.46	.58	.51	.46	.56	.50	.45	.43
6.0	.57	.48	.41	.56	.47	.41	.54	.46	.41	.52	.45	.40	.51	.45	.40	.38
7.0	.51	.43	.36	.51	.42	.36	.49	.41	.36	.48	.41	.36	.46	.40	.35	.33
8.0	.47	.38	.32	.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	.27	.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:Ky  
Test Date:07 June 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

## WEC AND CCEC

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	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	.310 .177 .056	.303 .173 .055	.290 .166 .053	.278 .160 .051	.267 .155 .050	
2.0	.292 .160 .049	.285 .157 .048	.274 .152 .047	.263 .147 .046	.253 .143 .045	
3.0	.270 .143 .043	.264 .141 .043	.254 .138 .042	.244 .134 .041	.235 .130 .040	
4.0	.249 .129 .038	.244 .128 .038	.235 .124 .037	.226 .121 .037	.218 .119 .036	
5.0	.230 .117 .034	.226 .116 .034	.217 .113 .033	.210 .111 .033	.203 .108 .033	
6.0	.213 .107 .031	.209 .106 .030	.202 .104 .030	.195 .101 .030	.189 .099 .030	
7.0	.198 .098 .028	.195 .097 .028	.188 .095 .027	.182 .094 .027	.177 .092 .027	
8.0	.185 .091 .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 .076 .022	.152 .075 .021	.147 .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 .134	.154 .134 .116	.106 .092 .080	.061 .053 .046	.019 .017 .015	
2.0	.172 .132 .098	.148 .114 .085	.101 .079 .059	.058 .046 .035	.019 .015 .011	
3.0	.164 .114 .074	.141 .099 .064	.097 .068 .045	.056 .040 .027	.018 .013 .009	
4.0	.157 .101 .058	.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:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

### UGR(Unified Glare Rating) Table

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm										
NAME: PORT C_WHT_CLE315G3_500mA_4K					TYPE:LED			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:1		
MFR.: Darkon					SUR.:			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	17.2	18.7	17.4	18.9	19.1	17.1	18.6	17.4	18.8	19.0
3H	18.7	20.1	19.0	20.4	20.6	18.6	20.0	18.9	20.3	20.5
4H	19.4	20.7	19.7	20.9	21.2	19.3	20.6	19.6	20.8	21.1
6H	19.8	21.1	20.2	21.4	21.6	19.7	21.0	20.0	21.2	21.5
8H	20.0	21.2	20.3	21.5	21.8	19.9	21.1	20.2	21.4	21.7
12H	20.1	21.3	20.5	21.6	21.9	19.9	21.1	20.3	21.4	21.7
4H 2H	17.8	19.1	18.1	19.4	19.6	17.7	19.1	18.0	19.3	19.6
3H	19.5	20.7	19.9	21.0	21.3	19.4	20.6	19.8	20.9	21.2
4H	20.3	21.4	20.7	21.7	22.0	20.2	21.3	20.6	21.6	21.9
6H	20.9	21.9	21.3	22.2	22.6	20.8	21.7	21.2	22.1	22.5
8H	21.1	22.0	21.5	22.4	22.8	21.0	21.9	21.4	22.2	22.6
12H	21.3	22.1	21.7	22.5	22.9	21.1	21.9	21.6	22.3	22.7
8H 4H	20.6	21.4	21.0	21.8	22.2	20.5	21.4	20.9	21.7	22.1
6H	21.3	22.1	21.8	22.5	22.9	21.2	22.0	21.7	22.4	22.8
8H	21.6	22.3	22.1	22.7	23.2	21.5	22.2	22.0	22.6	23.1
12H	21.9	22.4	22.4	22.9	23.4	21.7	22.3	22.2	22.7	23.2
12H 4H	20.6	21.4	21.0	21.8	22.2	20.5	21.3	20.9	21.7	22.1
6H	21.4	22.0	21.9	22.5	22.9	21.3	22.0	21.8	22.4	22.8
8H	21.7	22.3	22.2	22.8	23.2	21.6	22.2	22.1	22.6	23.1
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				

CIE Pub.117, 1963 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 2.3$ )

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:

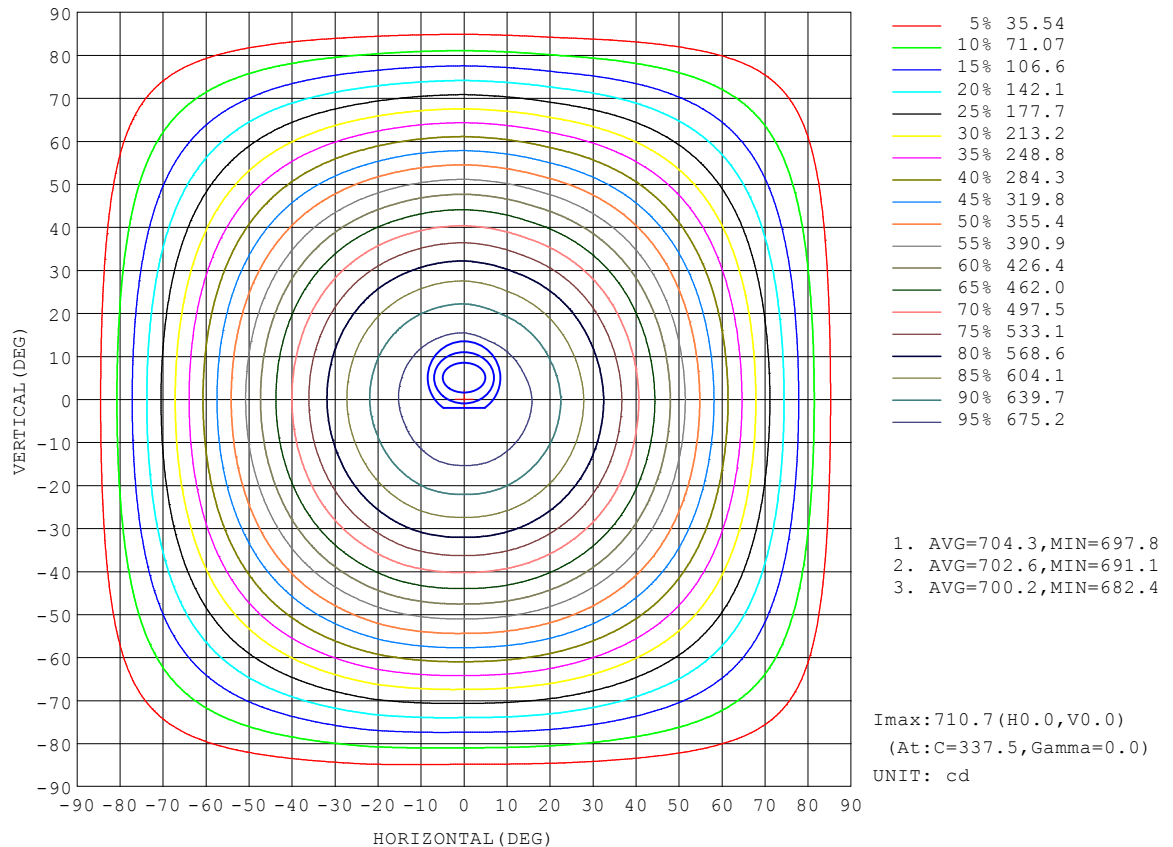
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	58	46	39	57	46	39	56	46	39	33
0.80	68	56	49	67	56	49	65	55	48	41
1.00	76	65	58	75	64	58	73	66	57	50
1.25	83	73	66	82	72	65	79	71	64	57
1.50	88	78	71	87	77	71	83	76	70	62
2.00	95	86	80	93	85	79	90	83	78	70
2.50	99	91	85	97	90	84	93	87	82	74
3.00	102	95	90	100	94	89	96	91	87	78
4.00	106	101	96	104	99	94	100	95	92	83
5.00	109	104	100	106	102	98	102	98	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:Ky  
Test Date:07 June 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

**ISOCANDELA DIAGRAM**

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:



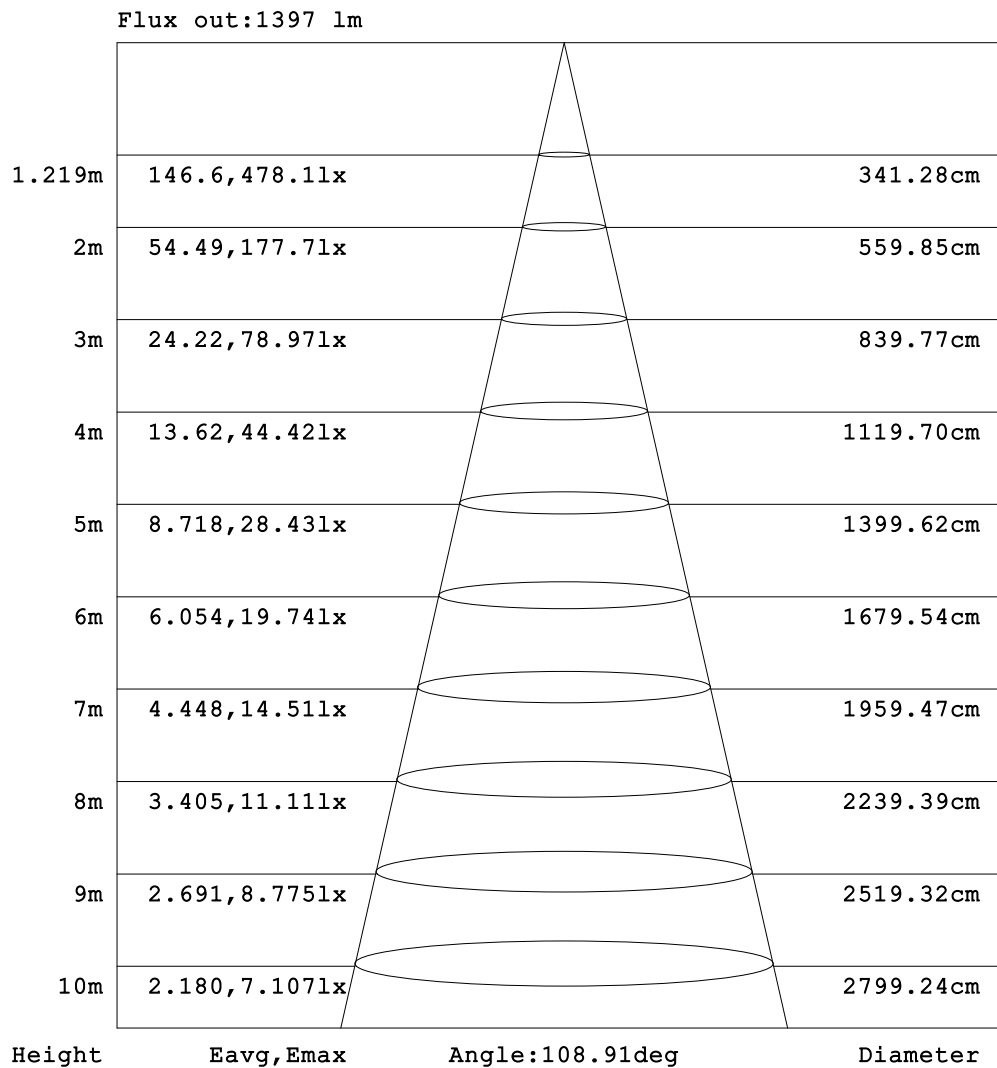
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:



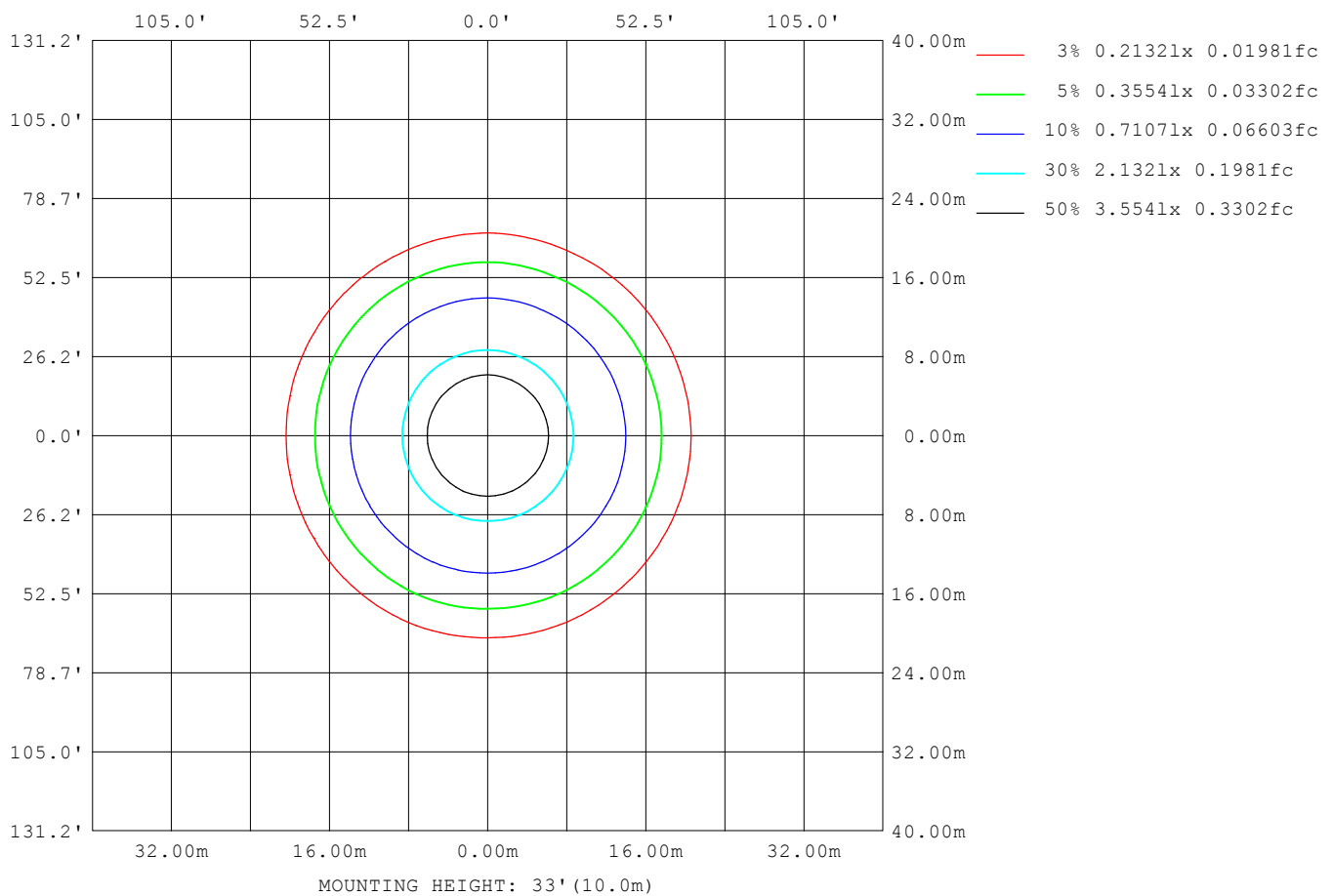
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:240.01V I:0.0835A P:17.794W PF:0.8878 Freq:50.08Hz Lamp Flux:1962.62x1 lm		
NAME: PORT C_WHT_CLE315G3_500mA_4K	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: Darkon	SUR.:	Shielding Angle:

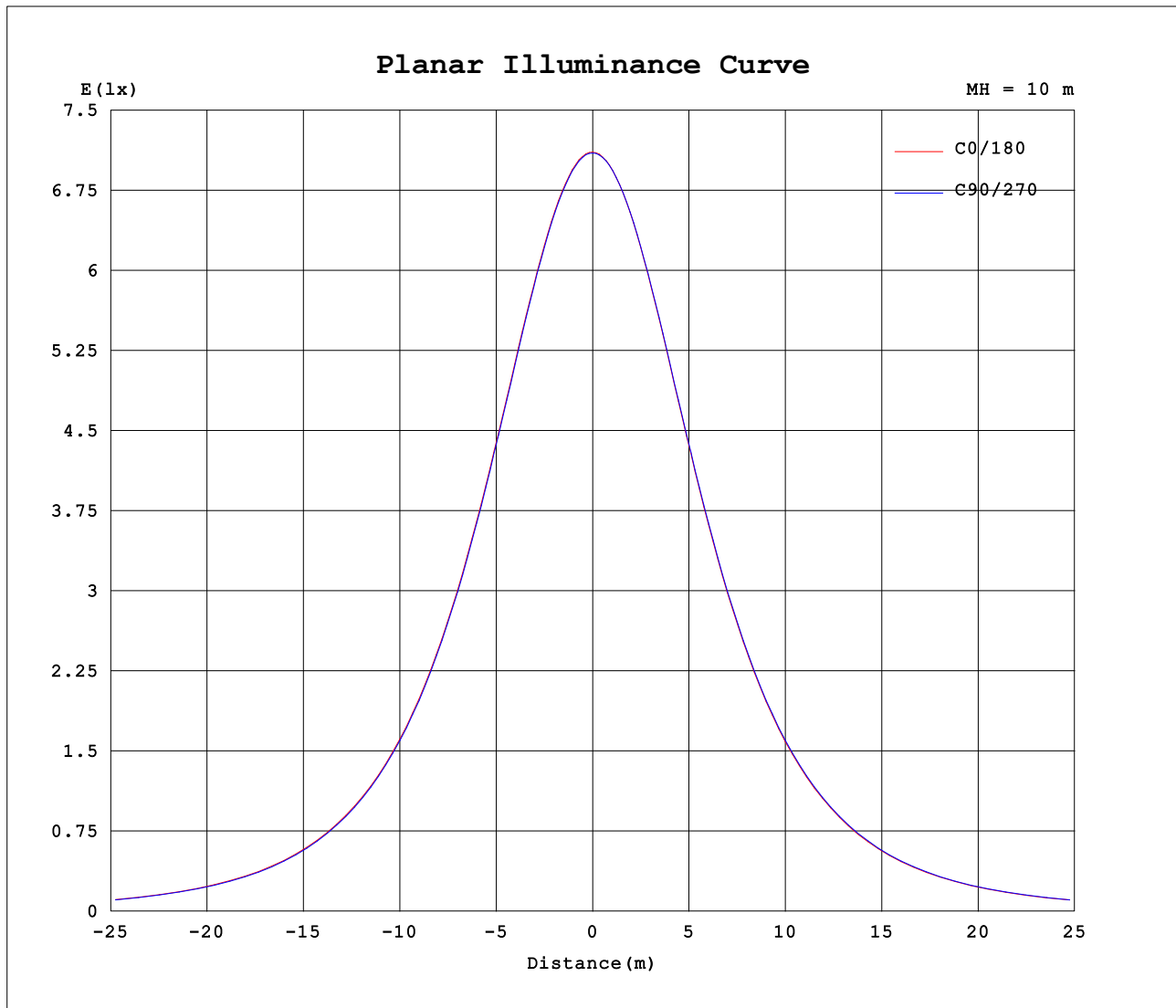
AvgL	cd/m2
L_0~180 (65) av	6271
L_0~180 (75) av	5636
L_0~180 (85) av	4347
L_90~270 (65) av	6265
L_90~270 (75) av	5617
L_90~270 (85) av	4303
L_45 (65) av	6266
L_45 (75) av	5624
L_45 (85) av	4322

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Ky  
Test Date:07 June 2017

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity:65.0%  
Test Distance:7.220m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Ky  
Test Date: 07 June 2017

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.366  
Humidity: 65.0%  
Test Distance: 7.220m [K=1.0000]  
Remarks:

