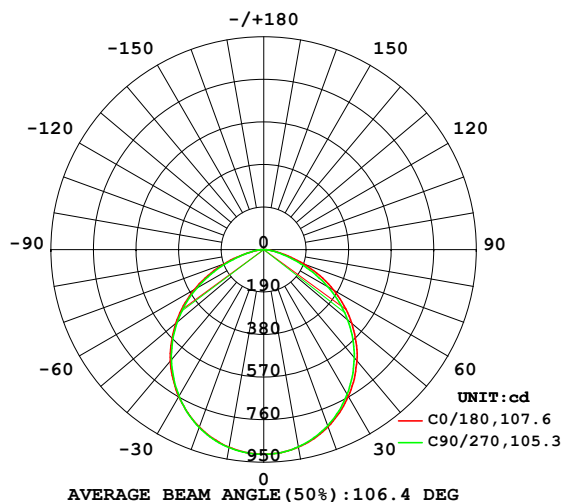


**LUMINAIRE PHOTOMETRIC TEST REPORT**

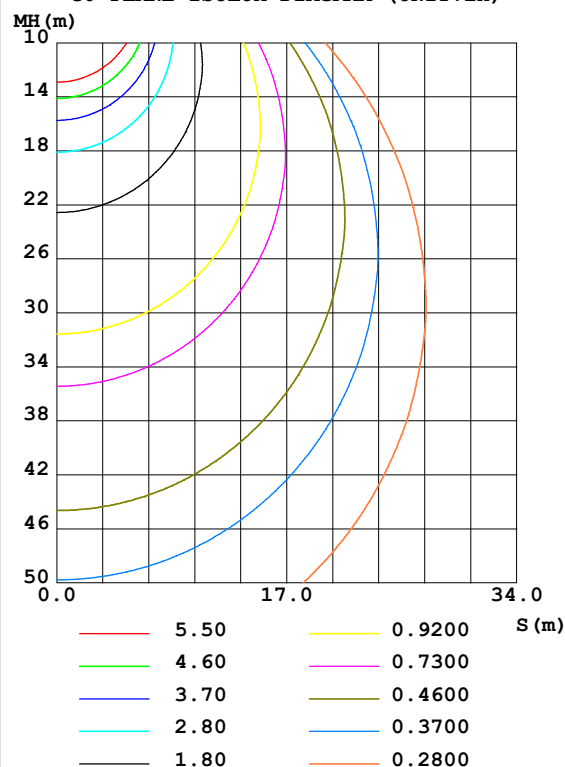
Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 92.01 lm/W			
MODEL: 20000mm	1300lm 940 HV ADV5	Imax(cd)	914.1	S/MH(C0/180)	1.24
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2370.8	$\eta$ UP,DN(C0-180)	0.0,49.6
NOMINAL FLUX(lm)	2370.82	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,50.4
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:JEFF  
Test Date:20 January 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [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	895.5	894.5	894.4	895.9	896.0	897.8	897.6	896.4	0- 10	86.41	86.41	3.64,3.64
20	841.4	837.8	836.2	840.9	842.7	847.3	844.8	844.8	10- 20	246.3	332.8	14,14
30	756.3	749.7	745.7	754.6	758.6	763.0	756.2	760.2	20- 30	369.7	702.4	29.6,29.6
40	647.4	636.2	629.3	641.5	649.3	650.2	641.7	647.2	30- 40	439.3	1142	48.2,48.2
50	512.8	499.3	490.0	505.4	513.6	515.9	504.9	511.6	40- 50	445.8	1588	67,67
60	360.5	341.2	328.7	347.0	359.0	359.4	345.9	354.9	50- 60	384.6	1972	83.2,83.2
70	191.6	171.7	161.3	176.8	189.5	187.4	174.7	183.6	60- 70	261.6	2234	94.2,94.2
80	53.21	48.73	47.54	51.04	51.16	54.50	52.46	52.89	70- 80	114.8	2349	99.1,99.1
90	0.9983	1.622	1.901	1.513	0.7841	1.986	2.568	1.962	80- 90	22.29	2371	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): 1368.2 lm

%lum = 57.7%

%lamp = 57.7%

Conical surface Flux(120deg): 1972.1 lm

%lum = 83.2%

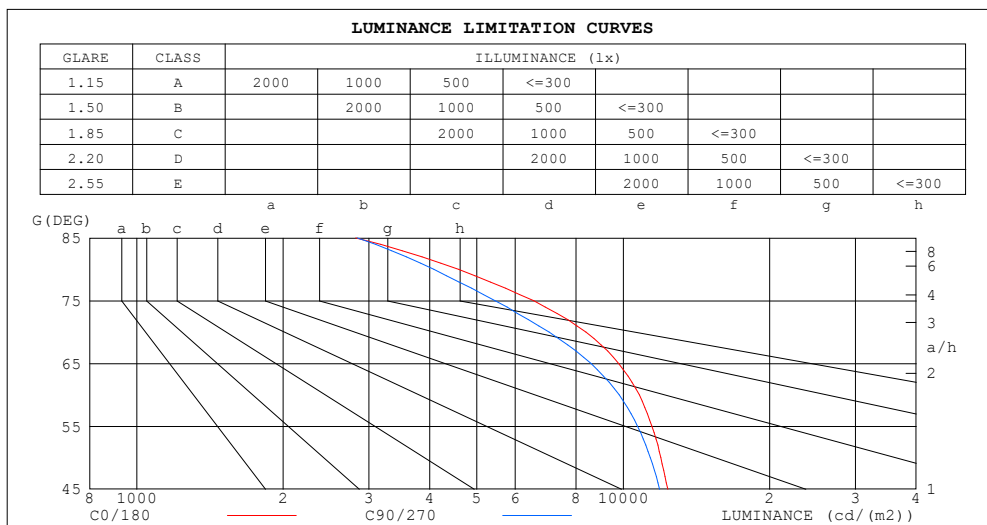
%lamp = 83.2%

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2819	2840
80	4587	4084
75	6548	5454
70	8384	7037
65	9789	8581
60	10793	9808
55	11449	10705
50	11943	11372
45	12344	11872

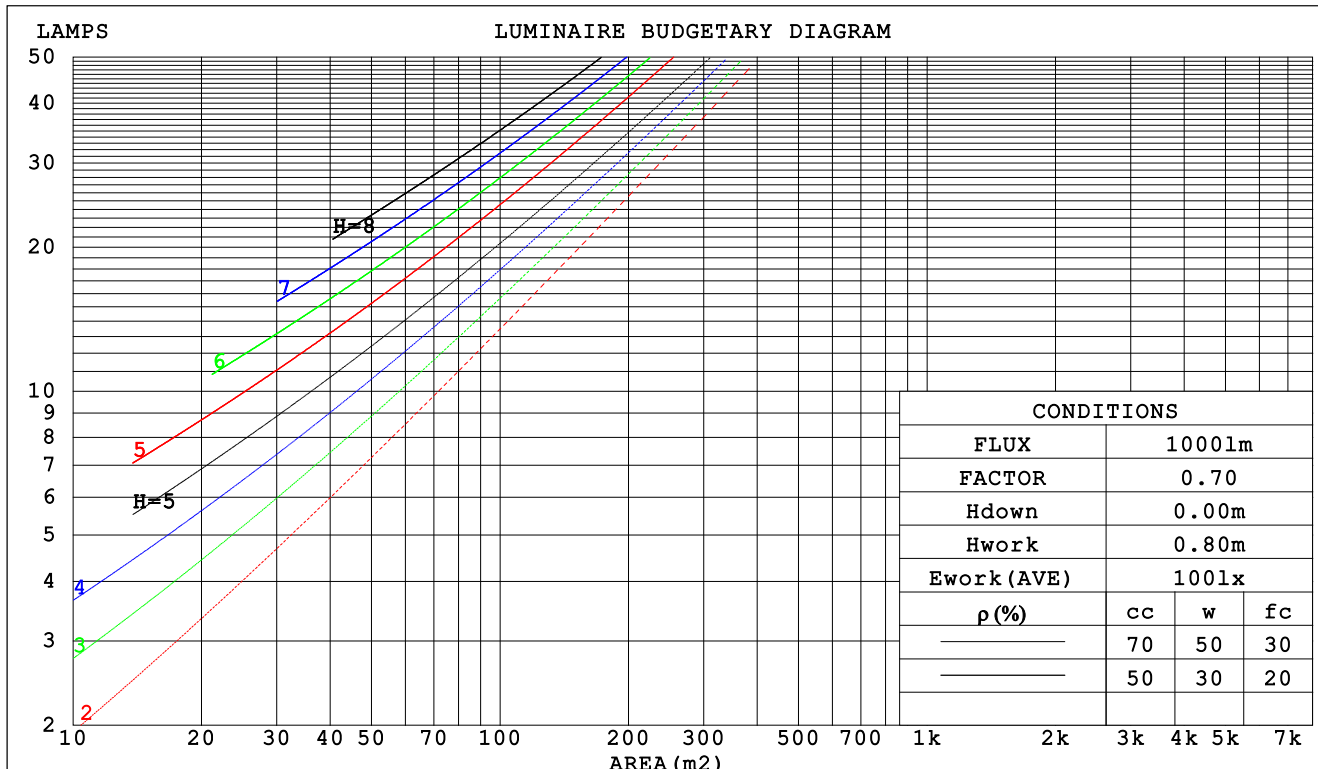
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 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	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	1.05	1.01	.98	1.03	.99	.96	.99	.96	.93	.95	.92	.90	.91	.89	.88	.85
2.0	.92	.86	.80	.90	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.81	.74	.67	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.63	.61
4.0	.72	.64	.57	.71	.63	.57	.69	.62	.56	.66	.60	.56	.64	.59	.55	.53
5.0	.65	.56	.50	.64	.56	.49	.62	.54	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.50	.43	.58	.49	.43	.56	.48	.43	.54	.48	.43	.53	.47	.42	.40
7.0	.53	.45	.38	.52	.44	.38	.51	.43	.38	.49	.43	.38	.48	.42	.38	.36
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
9.0	.45	.36	.31	.44	.36	.31	.43	.36	.31	.42	.35	.31	.41	.35	.30	.29
10.0	.41	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.28	.26



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

**WEC AND CCEC**

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 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	.285	.162	.051	.278	.159	.050	.265	.152	.049	.253	.146	.047	.242	.140	.045		
2.0	.274	.150	.046	.267	.147	.045	.256	.142	.044	.245	.138	.043	.235	.133	.042		
3.0	.256	.136	.041	.251	.134	.040	.241	.131	.040	.231	.127	.039	.223	.123	.038		
4.0	.239	.124	.036	.234	.122	.036	.225	.119	.036	.217	.116	.035	.209	.113	.035		
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.203	.107	.032	.196	.104	.031		
6.0	.207	.104	.030	.203	.103	.030	.196	.101	.029	.190	.099	.029	.183	.097	.029		
7.0	.194	.096	.027	.190	.095	.027	.184	.093	.027	.178	.091	.027	.172	.089	.026		
8.0	.181	.089	.025	.178	.088	.025	.173	.086	.025	.167	.085	.024	.162	.083	.024		
9.0	.170	.082	.023	.168	.082	.023	.163	.080	.023	.158	.079	.023	.153	.078	.022		
10.0	.161	.077	.021	.158	.076	.021	.153	.075	.021	.149	.074	.021	.145	.073	.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	.179	.156	.136	.153	.134	.117	.105	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.060	.057	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.120	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.133	.075	.034	.115	.065	.030	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.109	.060	.026	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.121	.064	.026	.104	.056	.022	.072	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm										
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 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	21.3	22.8	21.6	23.0	23.2	20.9	22.4	21.2	22.6	22.8
3H	22.5	23.8	22.8	24.0	24.3	21.9	23.3	22.2	23.5	23.7
4H	22.8	24.1	23.1	24.3	24.6	22.2	23.5	22.5	23.7	24.0
6H	22.9	24.1	23.3	24.4	24.7	22.3	23.5	22.6	23.8	24.1
8H	22.9	24.1	23.3	24.4	24.7	22.3	23.5	22.6	23.8	24.0
12H	22.9	24.0	23.3	24.3	24.6	22.3	23.4	22.6	23.7	24.0
4H 2H	21.7	23.0	22.1	23.3	23.5	21.4	22.7	21.8	23.0	23.2
3H	23.0	24.2	23.4	24.5	24.8	22.6	23.7	22.9	24.0	24.3
4H	23.5	24.5	23.8	24.8	25.1	22.9	23.9	23.3	24.2	24.6
6H	23.7	24.6	24.1	24.9	25.3	23.1	24.0	23.5	24.4	24.7
8H	23.7	24.5	24.1	24.9	25.3	23.1	24.0	23.6	24.3	24.7
12H	23.7	24.5	24.1	24.9	25.3	23.2	23.9	23.6	24.3	24.7
8H 4H	23.5	24.4	23.9	24.7	25.1	23.0	23.9	23.4	24.2	24.6
6H	23.8	24.5	24.3	24.9	25.3	23.3	24.0	23.7	24.4	24.8
8H	23.9	24.5	24.4	24.9	25.4	23.4	24.0	23.8	24.4	24.9
12H	23.9	24.5	24.4	24.9	25.4	23.4	23.9	23.9	24.4	24.9
12H 4H	23.5	24.3	23.9	24.7	25.1	23.0	23.8	23.4	24.2	24.6
6H	23.8	24.4	24.3	24.9	25.3	23.3	23.9	23.8	24.3	24.8
8H	23.9	24.4	24.4	24.9	25.4	23.4	23.9	23.9	24.4	24.8
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				
2.0H	+ 0.4 / - 0.4					+ 0.4 / - 0.4				

CIE Pub.117 Corrected 2371 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.0)

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

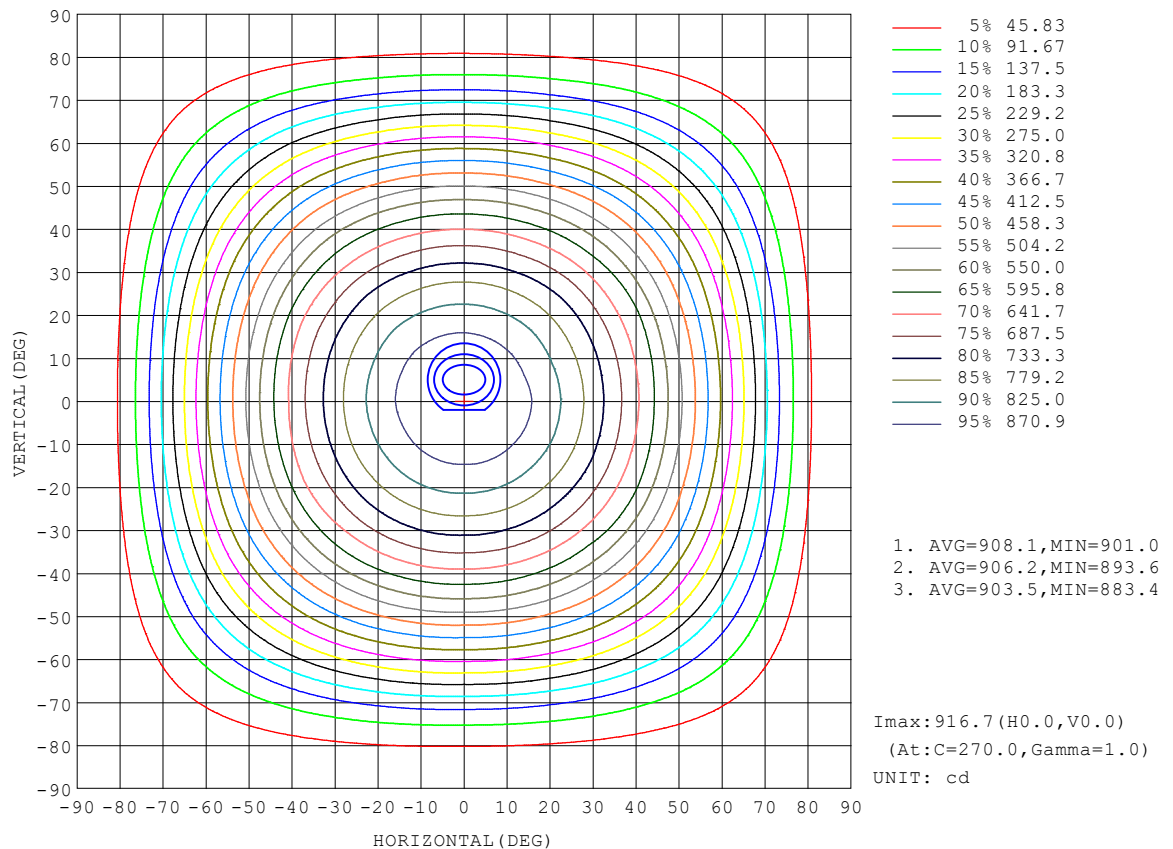
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	48	41	59	48	41	57	47	41	35
0.80	70	58	51	69	58	51	67	57	51	44
1.00	78	68	61	77	67	60	75	68	60	53
1.25	85	75	69	84	75	68	81	73	67	60
1.50	90	81	74	88	80	74	86	78	73	65
2.00	97	89	83	95	88	82	92	85	81	73
2.50	100	93	88	98	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	100	96	101	97	94	85
5.00	110	105	101	107	103	100	103	100	97	88
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:JEFF  
Test Date:20 January 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

**ISOCANDELA DIAGRAM**

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



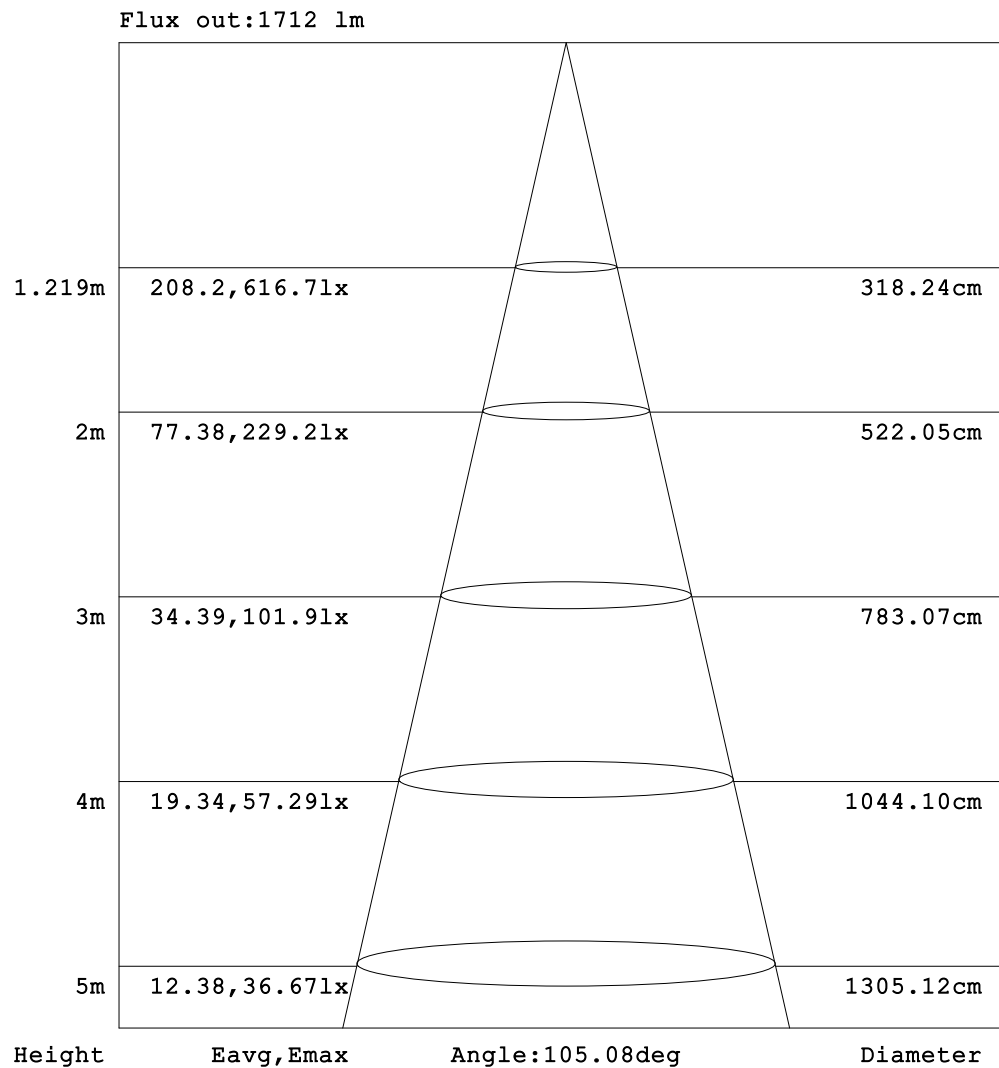
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



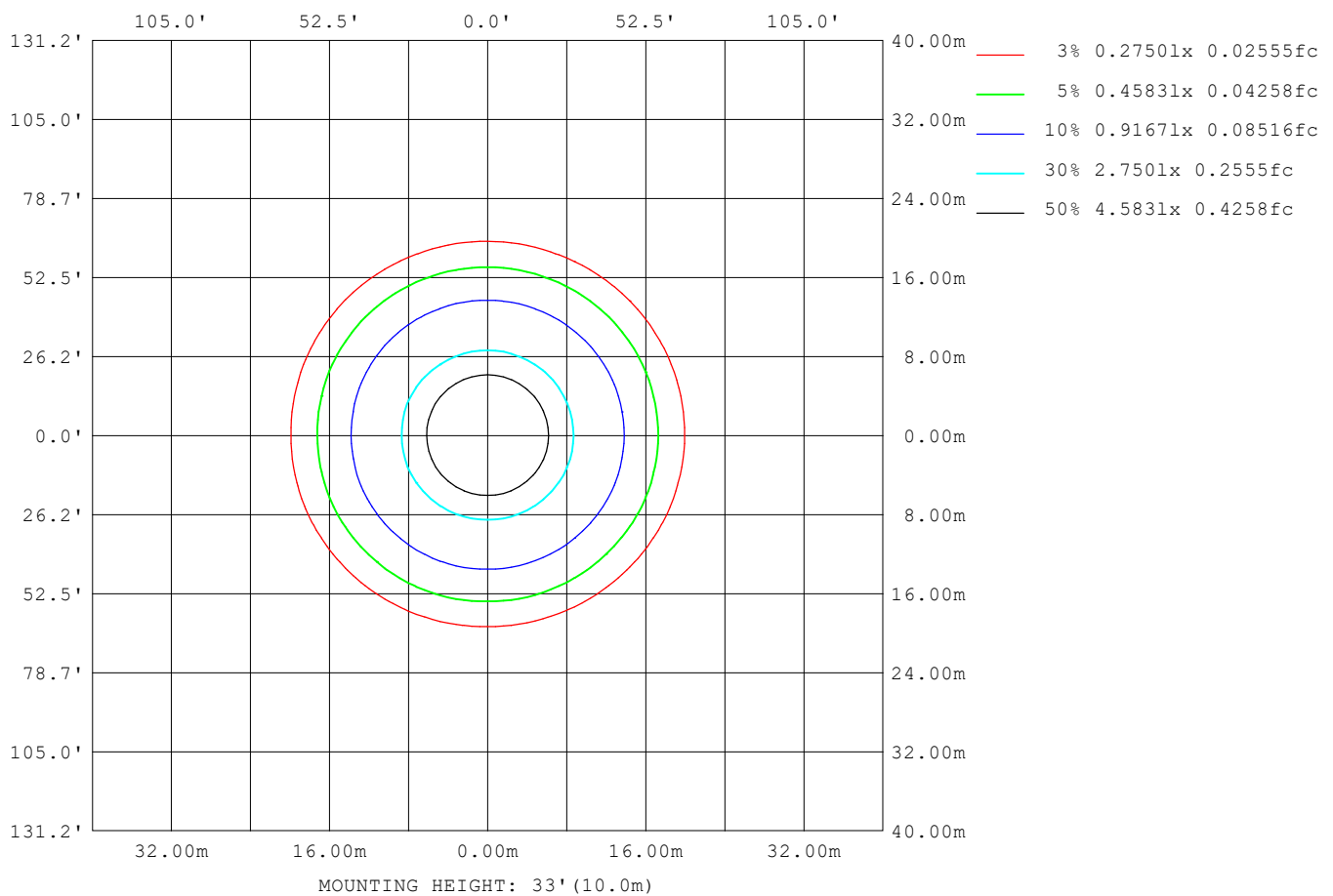
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

**ISOLUX DIAGRAM**

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 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:JEFF  
Test Date:20 January 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:239.9V I:0.1297A P:25.77W PF:0.8281 Lamp Flux:2370.82x1 lm		
NAME: HIP IP67_1186_NA_WHT_OV_HE_500mA_4000K CRI90 TYPE:LED	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

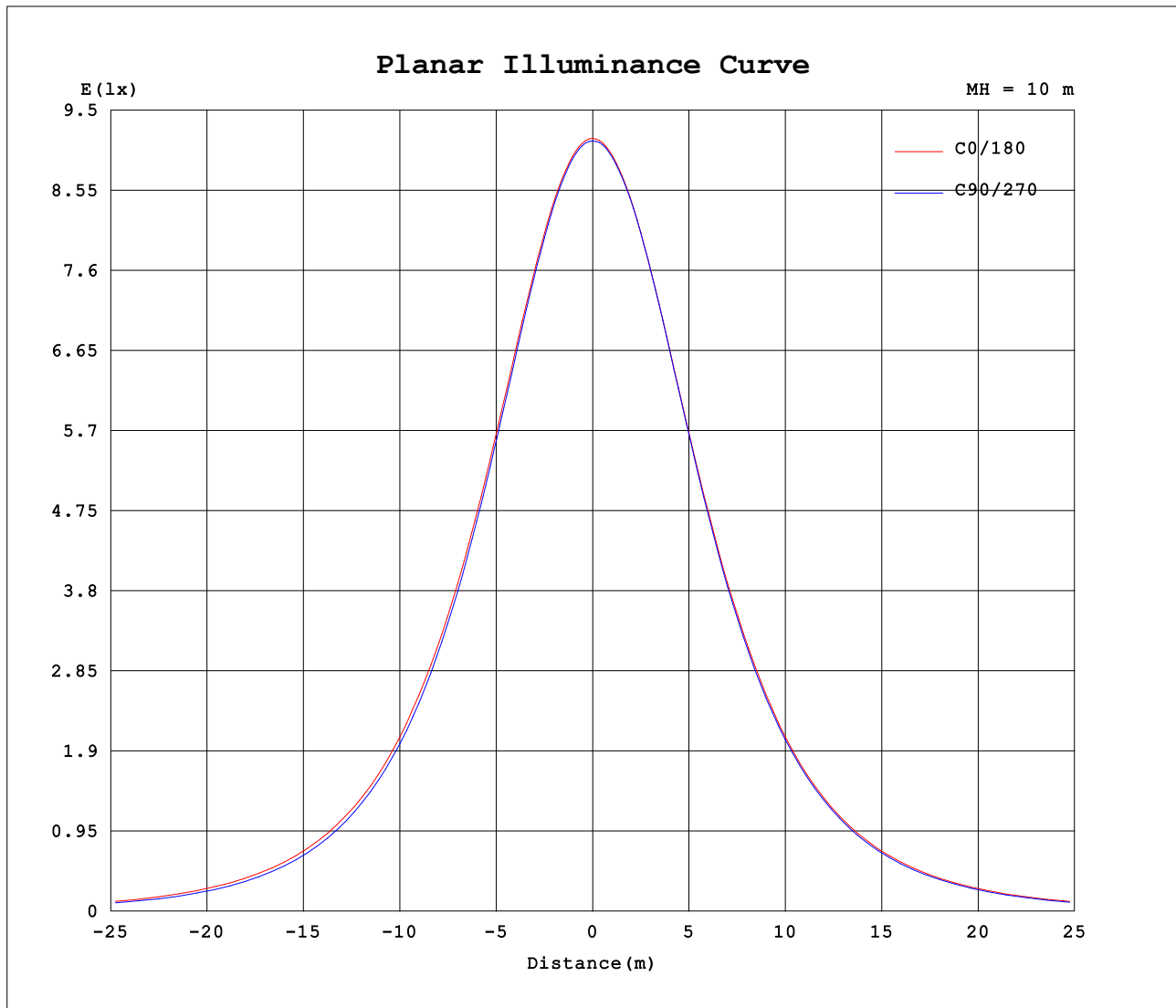
AvgL	cd/m2
L_0~180 (65) av	9730
L_0~180 (75) av	6450
L_0~180 (85) av	2703
L_90~270 (65) av	8881
L_90~270 (75) av	5685
L_90~270 (85) av	3105
L_45 (65) av	9361
L_45 (75) av	6074
L_45 (85) av	3051

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 January 2023

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.995m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: JEFF  
Test Date: 20 January 2023

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.995m [K=1.0000]  
Remarks:

