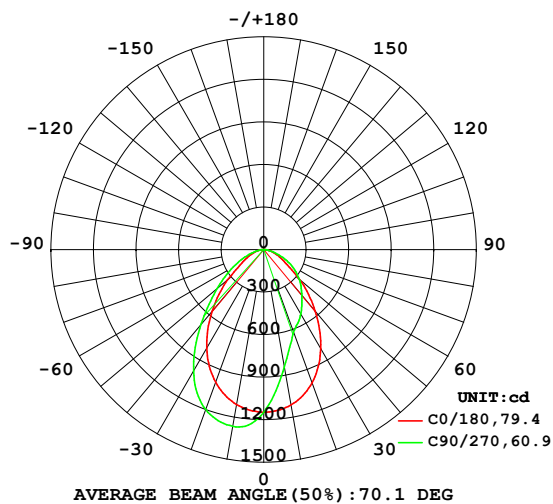


## LUMINAIRE PHOTOMETRIC TEST REPORT

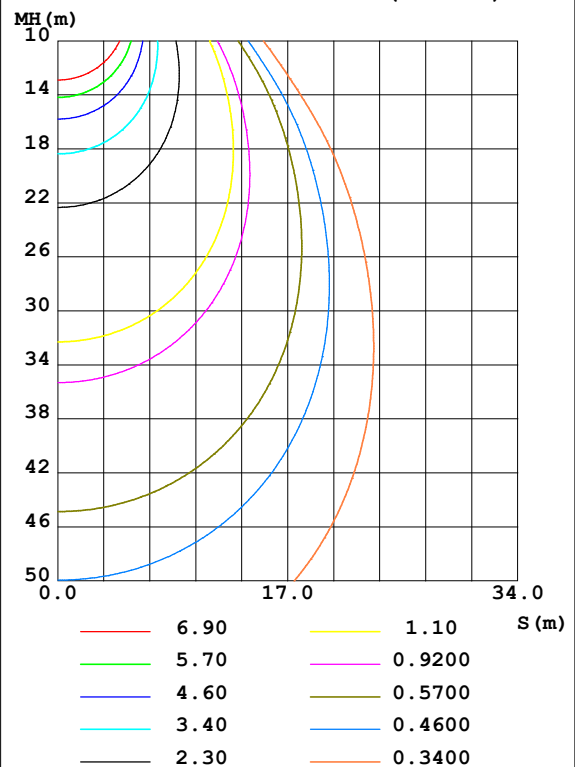
Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 86.80 lm/W			
MODEL: LLE 2000A	1300lm 940 HV ADV6	Imax(cd)	1265	S/MH(C0/180)	1.08
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.23
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2222.3	$\eta$ UP,DN(C0-180)	0.0,39.4
NOMINAL FLUX(lm)	2222.25	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,60.6
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.10

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 February 2024

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.890m [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	1112	911.8	841.1	911.8	1109	1247	1265	1254	0- 10	106.3	106.3	4.78,4.78
20	999.2	676.3	618.2	683.4	995.4	1207	1200	1221	10- 20	286.6	392.9	17.7,17.7
30	805.7	556.3	525.1	562.0	805.5	1078	991.1	1098	20- 30	404.3	797.2	35.9,35.9
40	564.9	462.0	420.2	463.7	566.3	849.9	687.8	873.1	30- 40	442.7	1240	55.8,55.8
50	332.7	344.8	328.4	347.0	333.1	575.3	431.6	595.6	40- 50	398.9	1639	73.7,73.7
60	165.5	228.0	227.6	227.8	164.5	328.7	251.5	340.7	50- 60	299.3	1938	87.2,87.2
70	90.24	117.8	117.4	117.0	89.42	153.4	121.3	158.5	60- 70	185.5	2124	95.6,95.6
80	31.13	34.81	33.89	33.76	29.90	43.24	39.25	44.03	70- 80	81.77	2205	99.2,99.2
90	0.7659	0.4030	0.3177	0.4172	0.3665	0.4175	0.4601	0.4799	80- 90	16.89	2222	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): 1449.1 lm

%lum = 65.2%

%lamp = 65.2%

Conical surface Flux(120deg): 1938.1 lm

%lum = 87.2%

%lamp = 87.2%

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JEFF

Test Date:20 February 2024

 $\gamma$  Range: 0 - 90DEG $\gamma$  Interval: 1.0DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295

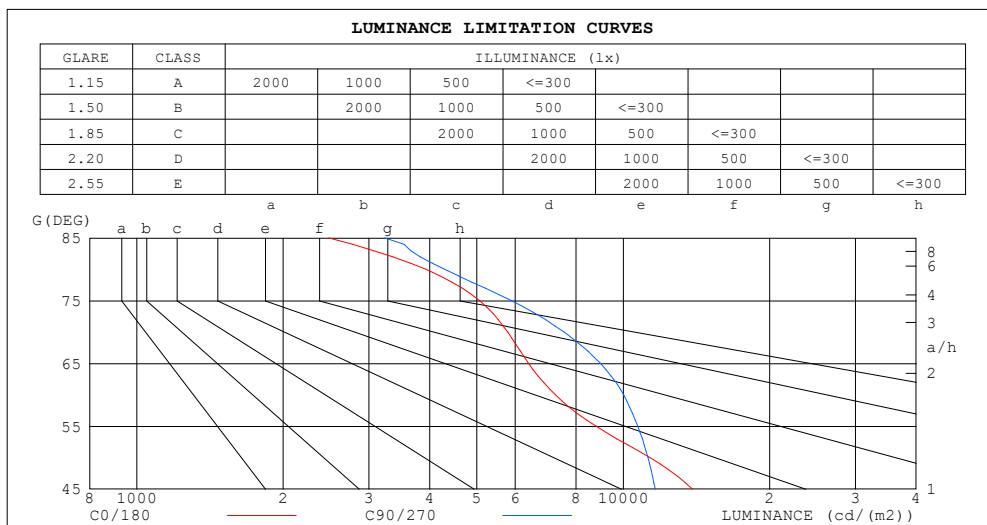
Humidity:65.0%

Test Distance:7.890m [K=1.0000]

Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	2485	3236
80	3933	4297
75	5072	5897
70	5788	7559
65	6390	8988
60	7260	10021
55	8800	10707
50	11355	11247
45	13887	11638

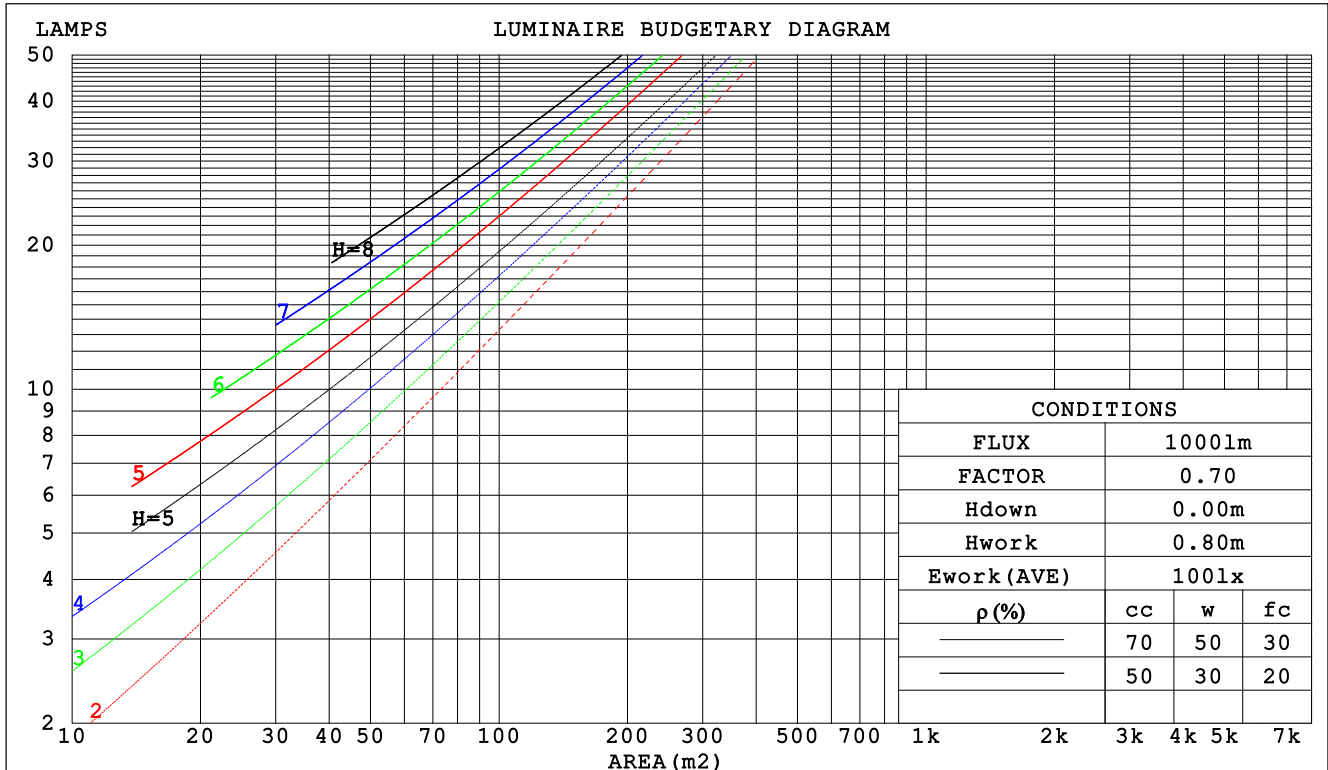
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 February 2024

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.890m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90		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	1.00
1.0	1.06	1.03	.99	1.04	1.01	.98	.90	.97	.95	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.88	.83	.93	.87	.82	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.84	.77	.71	.83	.76	.71	.80	.74	.69	.77	.72	.68	.75	.71	.67	.65
4.0	.76	.68	.62	.74	.67	.61	.72	.66	.60	.70	.64	.60	.68	.63	.59	.57
5.0	.68	.60	.54	.67	.60	.54	.65	.58	.53	.63	.57	.53	.62	.56	.52	.50
6.0	.62	.54	.48	.61	.53	.48	.59	.53	.47	.58	.52	.47	.56	.51	.47	.45
7.0	.57	.49	.43	.56	.48	.43	.54	.48	.42	.53	.47	.42	.52	.46	.42	.40
8.0	.52	.44	.39	.51	.44	.39	.50	.43	.38	.49	.43	.38	.48	.42	.38	.36
9.0	.48	.40	.35	.48	.40	.35	.46	.40	.35	.45	.39	.35	.44	.39	.35	.33
10.0	.45	.37	.32	.44	.37	.32	.43	.37	.32	.42	.36	.32	.41	.36	.32	.30



C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JEFF

Test Date:20 February 2024

 $\gamma$  Range: 0 - 90DEG $\gamma$  Interval: 1.0DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295

Humidity:65.0%

Test Distance:7.890m [K=1.0000]

Remarks:

**WEC AND CCEC**

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K_CRI90	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	.264	.150	.047	.257	.146	.047	.244	.140	.045	.232	.134	.043	.221	.128	.041		
2.0	.253	.139	.043	.247	.136	.042	.236	.131	.041	.226	.127	.040	.216	.122	.039		
3.0	.239	.127	.038	.233	.125	.038	.223	.121	.037	.214	.117	.036	.206	.114	.035		
4.0	.223	.116	.034	.219	.114	.034	.210	.111	.033	.202	.108	.033	.194	.105	.032		
5.0	.209	.106	.031	.205	.105	.031	.197	.102	.030	.190	.100	.030	.183	.098	.029		
6.0	.195	.098	.028	.192	.097	.028	.185	.095	.028	.178	.093	.027	.172	.091	.027		
7.0	.183	.091	.026	.180	.090	.026	.174	.088	.025	.168	.086	.025	.163	.085	.025		
8.0	.172	.084	.024	.170	.083	.024	.164	.082	.023	.159	.080	.023	.154	.079	.023		
9.0	.163	.079	.022	.160	.078	.022	.155	.077	.022	.150	.075	.022	.146	.074	.021		
10.0	.154	.074	.020	.151	.073	.020	.147	.072	.020	.143	.071	.020	.139	.070	.020		

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	.177	.157	.138	.152	.134	.119	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.136	.098	.068	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.150	.100	.062	.129	.087	.054	.089	.060	.038	.051	.035	.023	.017	.012	.007	
5.0	.143	.090	.050	.123	.078	.044	.085	.054	.031	.049	.032	.018	.016	.010	.006	
6.0	.136	.081	.042	.117	.070	.036	.081	.049	.026	.047	.029	.015	.015	.009	.005	
7.0	.130	.074	.035	.111	.064	.031	.077	.045	.022	.045	.027	.013	.014	.009	.004	
8.0	.123	.068	.030	.106	.059	.026	.074	.042	.019	.043	.025	.011	.014	.008	.004	
9.0	.118	.063	.027	.101	.055	.023	.070	.039	.016	.041	.023	.010	.013	.007	.003	
10.0	.112	.059	.024	.097	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG

C Interval: 22.5DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:JEFF

Test Date:20 February 2024

γ Range: 0 - 90DEG

γ Interval: 1.0DEG

Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295

Humidity:65.0%

Test Distance:7.890m [K=1.0000]

Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm											
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90								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	2H	19.6	21.0	19.9	21.2	21.4	19.8	21.2	20.1	21.4	21.6
	3H	20.5	21.8	20.8	22.0	22.2	20.9	22.2	21.2	22.4	22.7
	4H	20.8	22.0	21.1	22.2	22.5	21.3	22.5	21.6	22.7	22.9
	6H	20.9	22.1	21.3	22.3	22.6	21.4	22.5	21.7	22.8	23.1
	8H	20.9	22.0	21.3	22.3	22.6	21.4	22.5	21.7	22.8	23.1
	12H	20.9	22.0	21.3	22.3	22.6	21.4	22.5	21.8	22.7	23.0
4H	2H	20.2	21.4	20.5	21.6	21.9	20.3	21.5	20.6	21.8	22.0
	3H	21.3	22.3	21.6	22.6	22.9	21.6	22.6	21.9	22.9	23.2
	4H	21.6	22.6	22.0	22.9	23.2	22.0	22.9	22.4	23.2	23.6
	6H	21.9	22.7	22.3	23.0	23.4	22.2	23.0	22.6	23.4	23.7
	8H	21.9	22.7	22.3	23.0	23.4	22.2	23.0	22.7	23.4	23.8
	12H	21.9	22.6	22.3	23.0	23.4	22.3	23.0	22.7	23.4	23.8
8H	4H	21.8	22.6	22.2	22.9	23.3	22.1	22.9	22.5	23.2	23.6
	6H	22.1	22.7	22.5	23.1	23.6	22.4	23.0	22.8	23.4	23.9
	8H	22.2	22.7	22.6	23.2	23.6	22.5	23.1	22.9	23.5	23.9
	12H	22.2	22.7	22.7	23.1	23.6	22.6	23.0	23.0	23.5	24.0
12H	4H	21.8	22.5	22.2	22.9	23.3	22.1	22.8	22.5	23.2	23.6
	6H	22.1	22.7	22.6	23.1	23.5	22.4	23.0	22.9	23.4	23.8
	8H	22.2	22.7	22.7	23.1	23.6	22.5	23.0	23.0	23.4	23.9
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.5					+ 0.3 / - 0.3					
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4					
2.0H	+ 0.5 / - 1.3					+ 0.4 / - 0.3					

CIE Pub.117 Corrected 2222 lm Total Lamp Luminous Flux. (8log(F/F0) = 2.8)

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 February 2024

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.890m [K=1.0000]  
Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

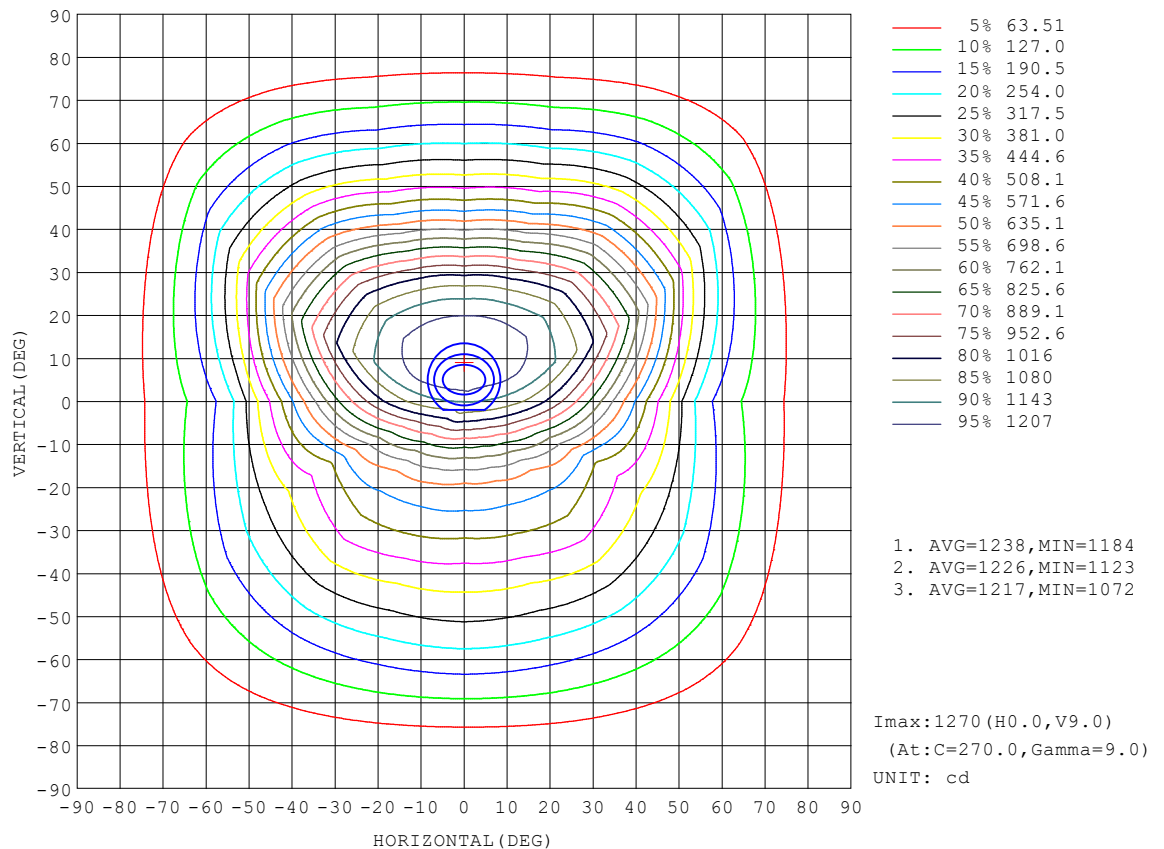
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	64	53	47	63	53	47	62	53	47	41
0.80	74	64	57	73	63	57	71	62	57	50
1.00	82	72	66	81	72	66	79	73	65	59
1.25	89	80	73	87	79	73	85	77	72	66
1.50	93	85	79	92	84	78	89	82	77	70
2.00	99	92	86	97	91	86	94	89	84	77
2.50	102	96	91	100	94	90	97	92	88	80
3.00	105	99	95	103	98	94	99	95	92	84
4.00	109	104	100	106	102	98	102	99	96	87
5.00	111	107	103	108	105	102	104	101	98	90
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 February 2024

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.890m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



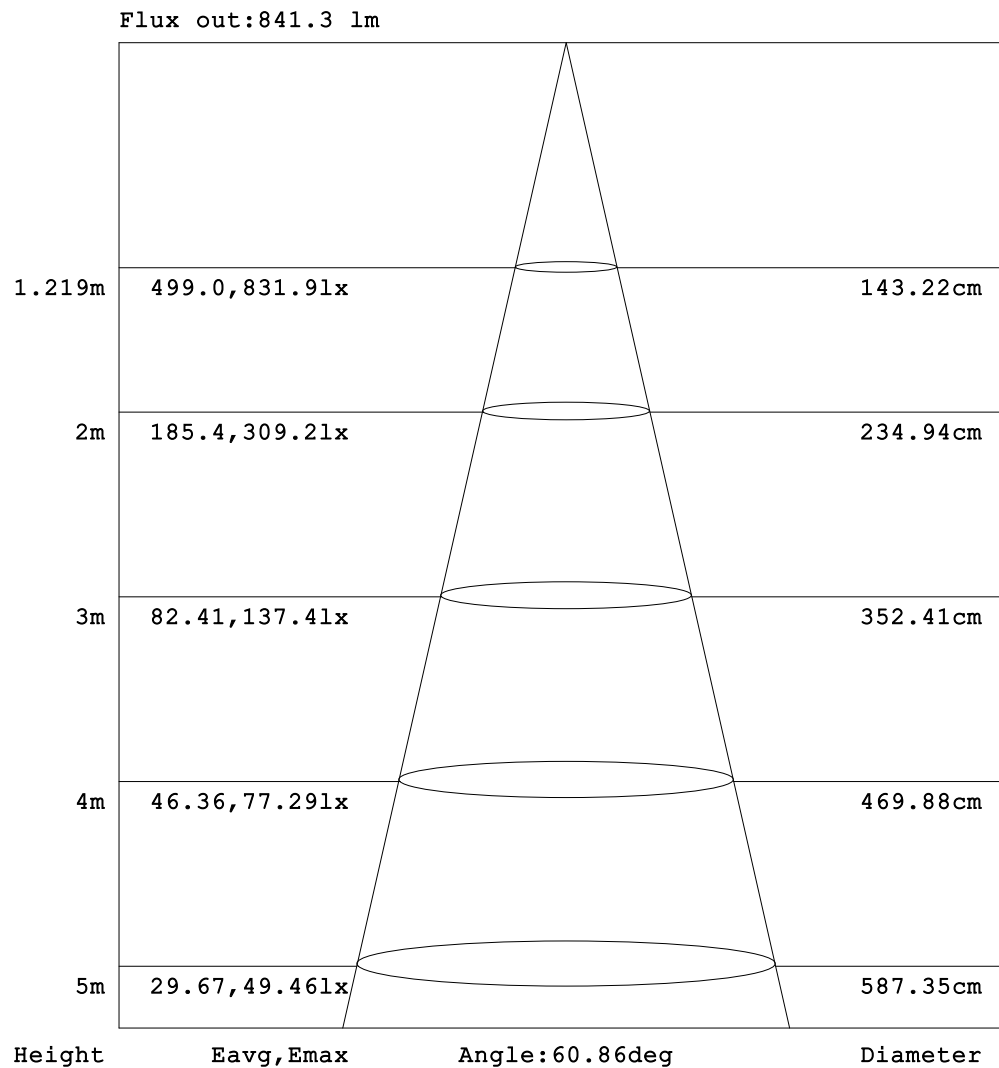
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 February 2024

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.890m [K=1.0000]  
Remarks:



**AAI Figure**

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	WEIGHT:	
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



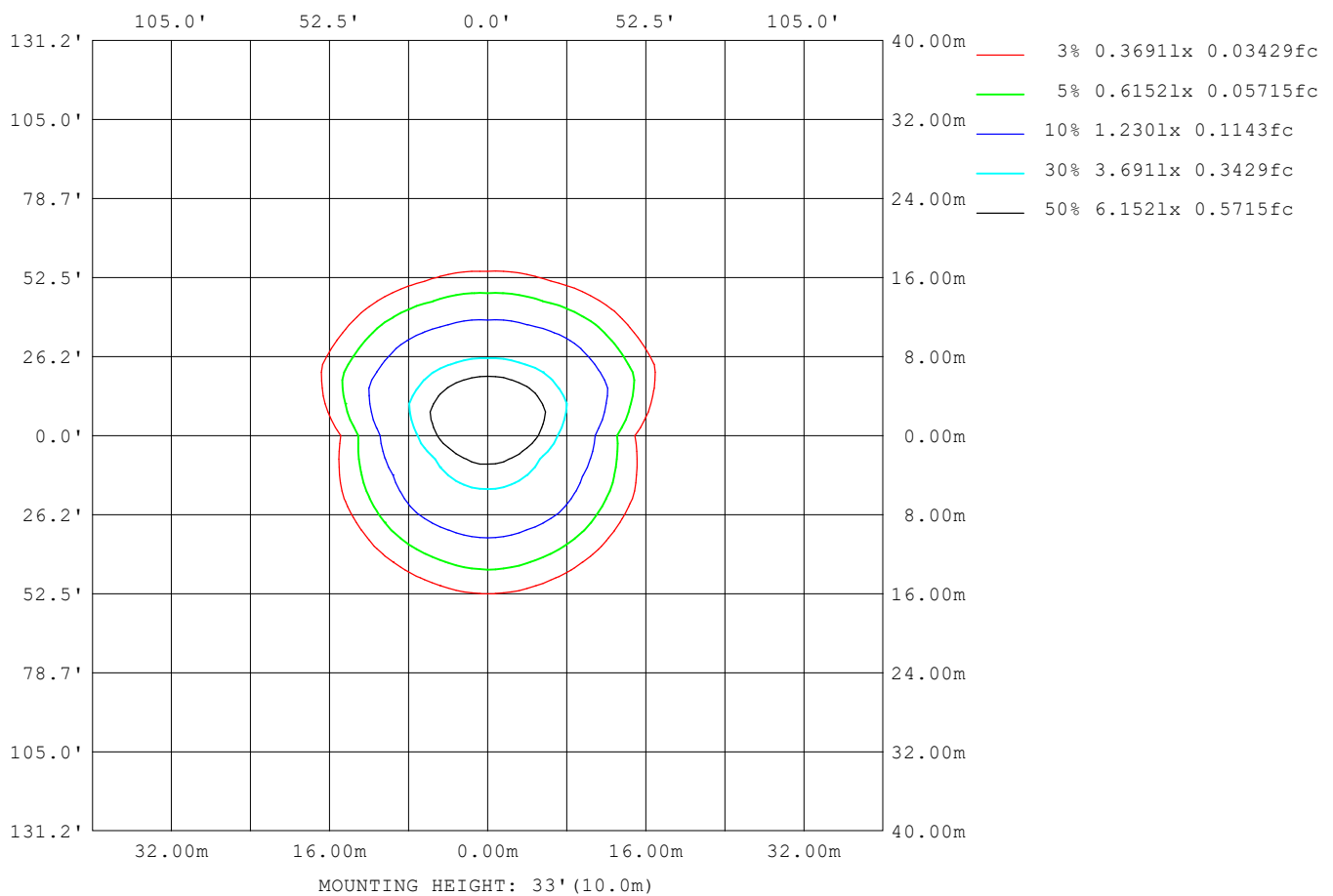
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 February 2024

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.890m [K=1.0000]  
Remarks:

### ISOLUX DIAGRAM

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	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 February 2024

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.890m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:239.9V I:0.1149A P:25.60W PF:0.9287 Lamp Flux:2222.25x1 lm		
NAME: SLIM H DIRECT_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K_CRI90		WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

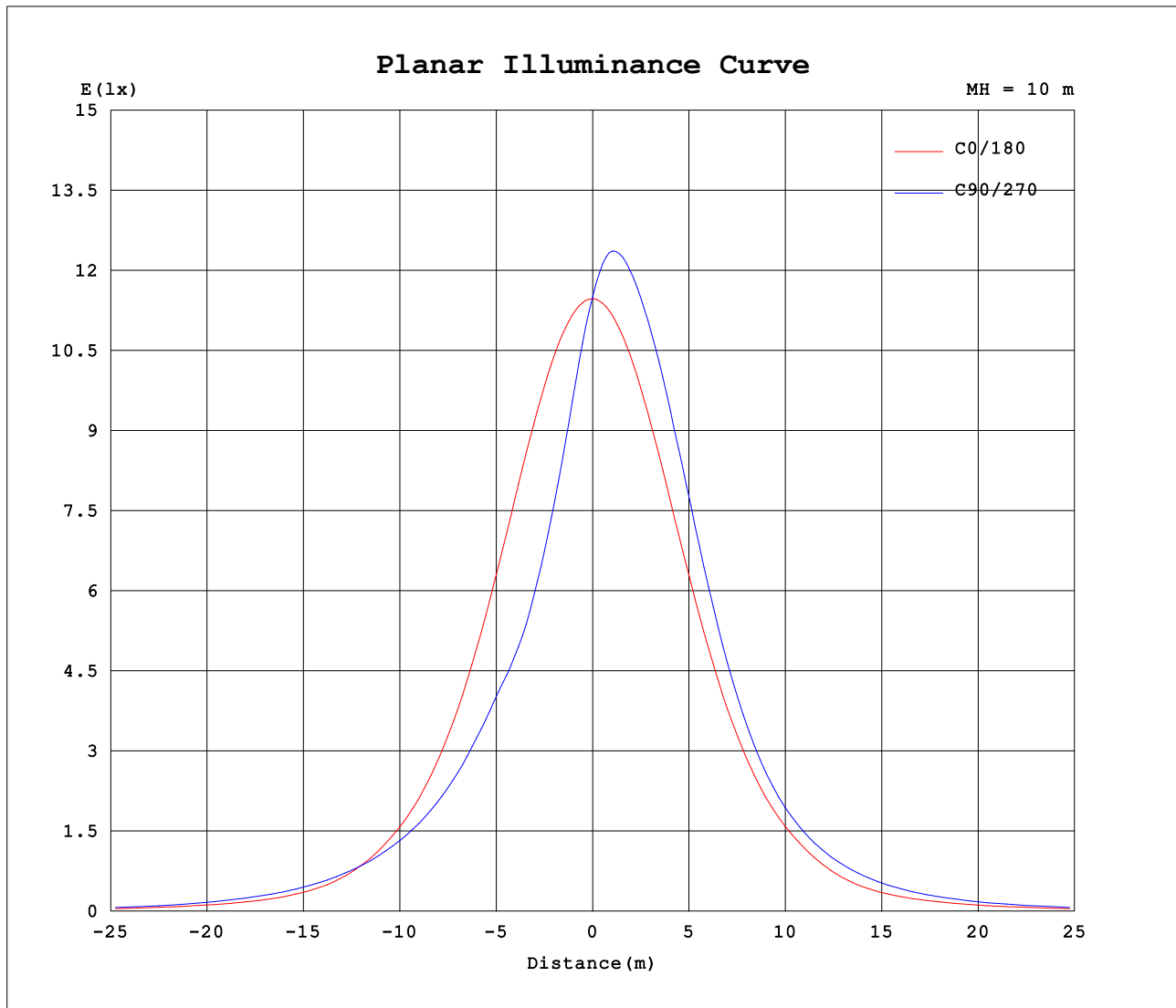
AvgL	cd/m2
L_0~180 (65) av	6370
L_0~180 (75) av	5024
L_0~180 (85) av	2381
L_90~270 (65) av	9168
L_90~270 (75) av	6061
L_90~270 (85) av	3723
L_45 (65) av	10597
L_45 (75) av	6775
L_45 (85) av	3809

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:20 February 2024

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity:65.0%  
Test Distance:7.890m [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 February 2024

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.295  
Humidity: 65.0%  
Test Distance: 7.890m [K=1.0000]  
Remarks:

