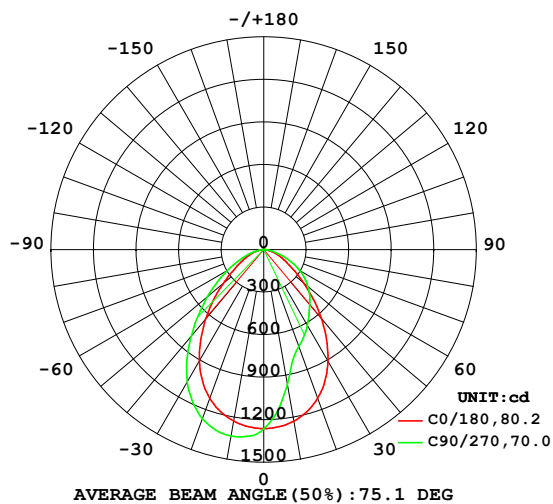


## LUMINAIRE PHOTOMETRIC TEST REPORT

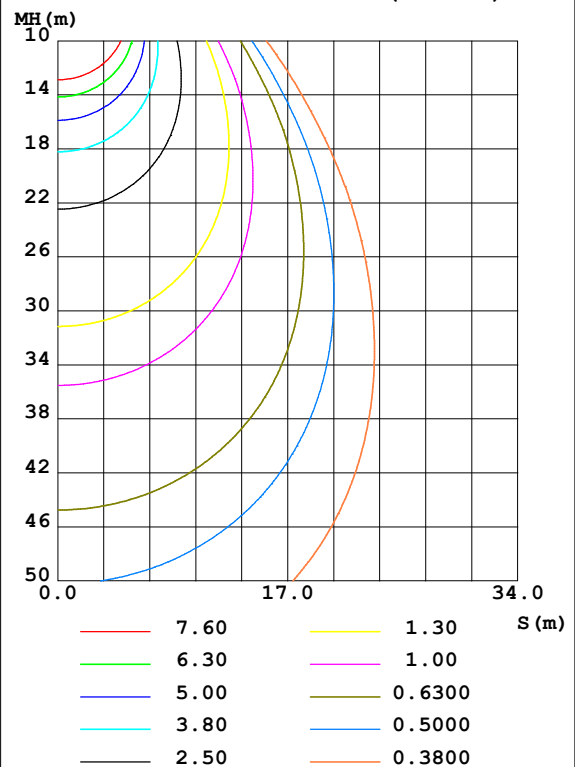
Test:U:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 98.33 lm/W			
LED TYPE	20000mm 1300lm 940 HV ADV6	Imax(cd)	1335	S/MH(C0/180)	1.10
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	2494.9	$\eta$ UP,DN(C0-180)	0.0,41.2
NOMINAL FLUX(lm)	2494.89	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,58.8
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.15

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:29 January 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	1228	1054	964.3	1049	1227	1315	1335	1316	0- 10	116.9	116.9	4.69,4.69
20	1114	768.5	727.0	765.6	1115	1271	1268	1270	10- 20	312.8	429.6	17.2,17.2
30	906.7	656.8	615.7	654.0	908.4	1141	1079	1137	20- 30	443.2	872.8	35,35
40	632.1	543.4	505.6	544.5	635.7	927.1	796.2	921.8	30- 40	492.3	1365	54.7,54.7
50	369.7	405.9	408.0	408.3	375.9	649.1	519.2	645.3	40- 50	452.5	1818	72.9,72.9
60	195.0	269.7	291.4	272.9	196.6	382.0	298.2	378.6	50- 60	346.7	2164	86.8,86.8
70	101.5	141.7	158.1	145.2	103.1	180.8	140.4	176.7	60- 70	217.1	2381	95.5,95.5
80	31.82	41.30	47.08	43.63	33.25	51.09	42.27	48.56	70- 80	95.91	2477	99.3,99.3
90	0.4217	0.6672	0.5401	0.7844	0.5317	0.7295	0.5952	0.6488	80- 90	17.51	2495	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): 1601.4 lm

%lum = 64.2%

%lamp = 64.2%

Conical surface Flux(120deg): 2164.3 lm

%lum = 86.8%

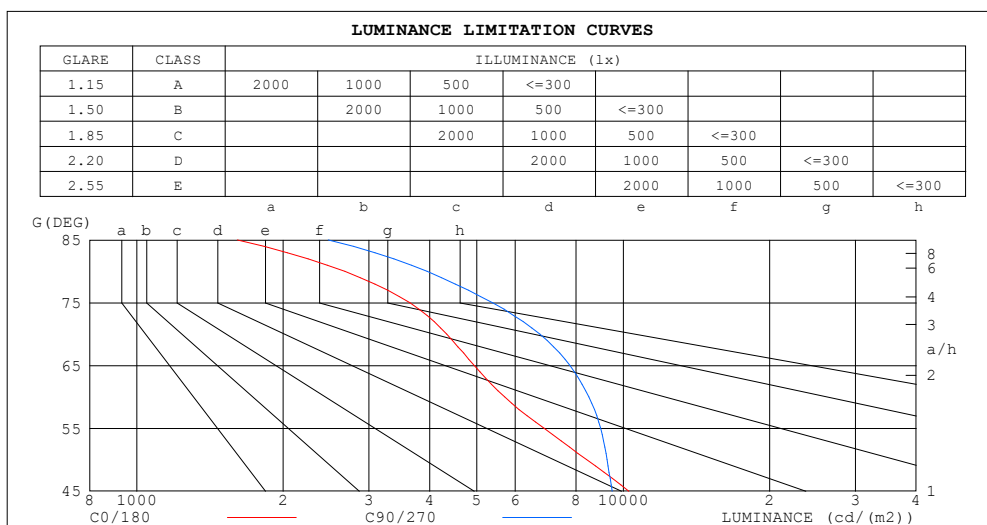
%lamp = 86.8%

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:JEFF  
 Test Date:29 January 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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_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	1609	2474
80	2678	3955
75	3641	5385
70	4339	6743
65	4942	7772
60	5701	8501
55	6877	8988
50	8406	9259
45	10264	9487

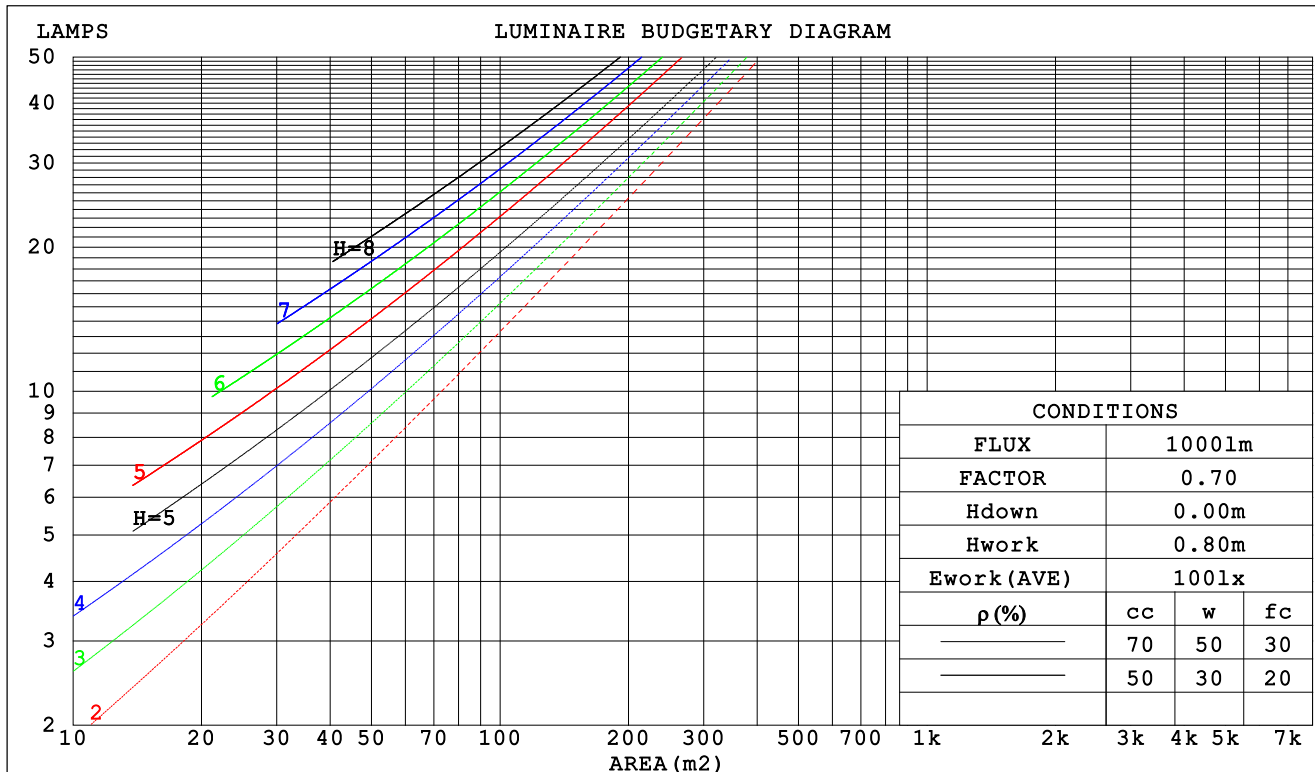
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:29 January 2024

$\gamma$  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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_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	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	1.02	.99	1.04	1.01	.98	.90	.97	.94	.96	.94	.92	.92	.91	.89	.87
2.0	.94	.88	.83	.92	.87	.82	.89	.84	.80	.86	.82	.78	.83	.80	.77	.75
3.0	.84	.77	.71	.82	.76	.70	.79	.74	.69	.77	.72	.68	.74	.70	.67	.65
4.0	.75	.67	.61	.74	.66	.61	.72	.65	.60	.69	.64	.59	.67	.62	.58	.56
5.0	.68	.60	.54	.67	.59	.53	.65	.58	.53	.63	.57	.52	.61	.56	.52	.50
6.0	.62	.53	.47	.61	.53	.47	.59	.52	.47	.57	.51	.46	.56	.50	.46	.44
7.0	.56	.48	.42	.55	.48	.42	.54	.47	.42	.53	.46	.42	.51	.46	.41	.39
8.0	.52	.44	.38	.51	.43	.38	.50	.43	.38	.49	.42	.38	.47	.42	.37	.36
9.0	.48	.40	.35	.47	.40	.35	.46	.39	.34	.45	.39	.34	.44	.38	.34	.32
10.0	.44	.37	.32	.44	.36	.32	.43	.36	.32	.42	.36	.31	.41	.35	.31	.30



C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:29 January 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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_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	.266 .151 .048	.259 .148 .047	.246 .141 .045	.234 .135 .043	.223 .129 .042	
2.0	.256 .140 .043	.250 .138 .042	.238 .133 .041	.228 .128 .040	.218 .123 .039	
3.0	.241 .128 .038	.235 .126 .038	.225 .122 .037	.216 .118 .036	.208 .115 .036	
4.0	.225 .117 .034	.221 .115 .034	.212 .112 .034	.204 .109 .033	.196 .106 .032	
5.0	.211 .107 .031	.206 .106 .031	.199 .103 .030	.191 .101 .030	.184 .099 .030	
6.0	.197 .099 .028	.193 .098 .028	.186 .096 .028	.180 .093 .027	.174 .091 .027	
7.0	.185 .091 .026	.181 .090 .026	.175 .089 .026	.169 .087 .025	.164 .085 .025	
8.0	.174 .085 .024	.171 .084 .024	.165 .082 .024	.160 .081 .023	.155 .080 .023	
9.0	.164 .079 .022	.161 .078 .022	.156 .077 .022	.151 .076 .022	.147 .075 .022	
10.0	.155 .074 .021	.152 .074 .021	.148 .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 .102	.143 .114 .088	.098 .079 .062	.057 .046 .036	.018 .015 .012	
3.0	.159 .114 .078	.136 .098 .068	.094 .068 .048	.054 .040 .028	.017 .013 .009	
4.0	.151 .100 .062	.130 .087 .054	.089 .060 .038	.052 .035 .022	.017 .012 .007	
5.0	.144 .090 .050	.123 .078 .044	.085 .054 .031	.049 .032 .018	.016 .010 .006	
6.0	.137 .081 .042	.117 .070 .036	.081 .049 .026	.047 .029 .015	.015 .009 .005	
7.0	.130 .074 .035	.112 .064 .031	.077 .045 .022	.045 .027 .013	.015 .009 .004	
8.0	.124 .068 .030	.107 .059 .026	.074 .042 .019	.043 .025 .011	.014 .008 .004	
9.0	.118 .063 .026	.102 .055 .023	.071 .039 .016	.041 .023 .010	.013 .008 .003	
10.0	.113 .059 .023	.097 .051 .020	.068 .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:29 January 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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm										
NAME: HIP_1160_NA_WHT_ASYMMETRIC_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	18.8	20.2	19.1	20.4	20.6	19.5	20.8	19.7	21.0	21.2
3H	19.6	20.9	19.9	21.1	21.4	20.7	22.0	21.0	22.2	22.4
4H	19.9	21.1	20.2	21.3	21.6	21.1	22.3	21.4	22.5	22.8
6H	20.0	21.1	20.3	21.4	21.7	21.2	22.4	21.6	22.6	22.9
8H	20.0	21.1	20.3	21.4	21.6	21.3	22.4	21.6	22.6	22.9
12H	20.0	21.0	20.3	21.3	21.6	21.3	22.3	21.6	22.6	22.9
4H 2H	19.4	20.6	19.7	20.8	21.1	19.9	21.1	20.2	21.4	21.6
3H	20.4	21.5	20.8	21.8	22.1	21.3	22.3	21.6	22.6	22.9
4H	20.8	21.7	21.1	22.0	22.4	21.8	22.7	22.1	23.0	23.4
6H	20.9	21.8	21.3	22.1	22.5	22.0	22.9	22.4	23.2	23.6
8H	21.0	21.7	21.4	22.1	22.5	22.1	22.9	22.5	23.2	23.6
12H	21.0	21.7	21.4	22.0	22.4	22.1	22.8	22.5	23.2	23.6
8H 4H	20.9	21.7	21.3	22.1	22.5	21.9	22.6	22.3	23.0	23.4
6H	21.2	21.8	21.6	22.2	22.7	22.2	22.9	22.6	23.3	23.7
8H	21.3	21.8	21.7	22.2	22.7	22.3	22.9	22.8	23.3	23.7
12H	21.3	21.8	21.7	22.2	22.7	22.4	22.8	22.8	23.3	23.8
12H 4H	20.9	21.6	21.3	22.0	22.4	21.8	22.6	22.3	22.9	23.3
6H	21.2	21.8	21.7	22.2	22.6	22.2	22.8	22.7	23.2	23.6
8H	21.3	21.8	21.8	22.2	22.7	22.3	22.8	22.8	23.2	23.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.3 / - 0.5					+ 0.2 / - 0.3				
1.5H	+ 0.2 / - 0.4					+ 0.2 / - 0.4				
2.0H	+ 0.4 / - 1.3					+ 0.4 / - 0.4				

CIE Pub.117 Corrected 2495 lm Total Lamp Luminous Flux. (8log(F/F0) = 3.2)

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:29 January 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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

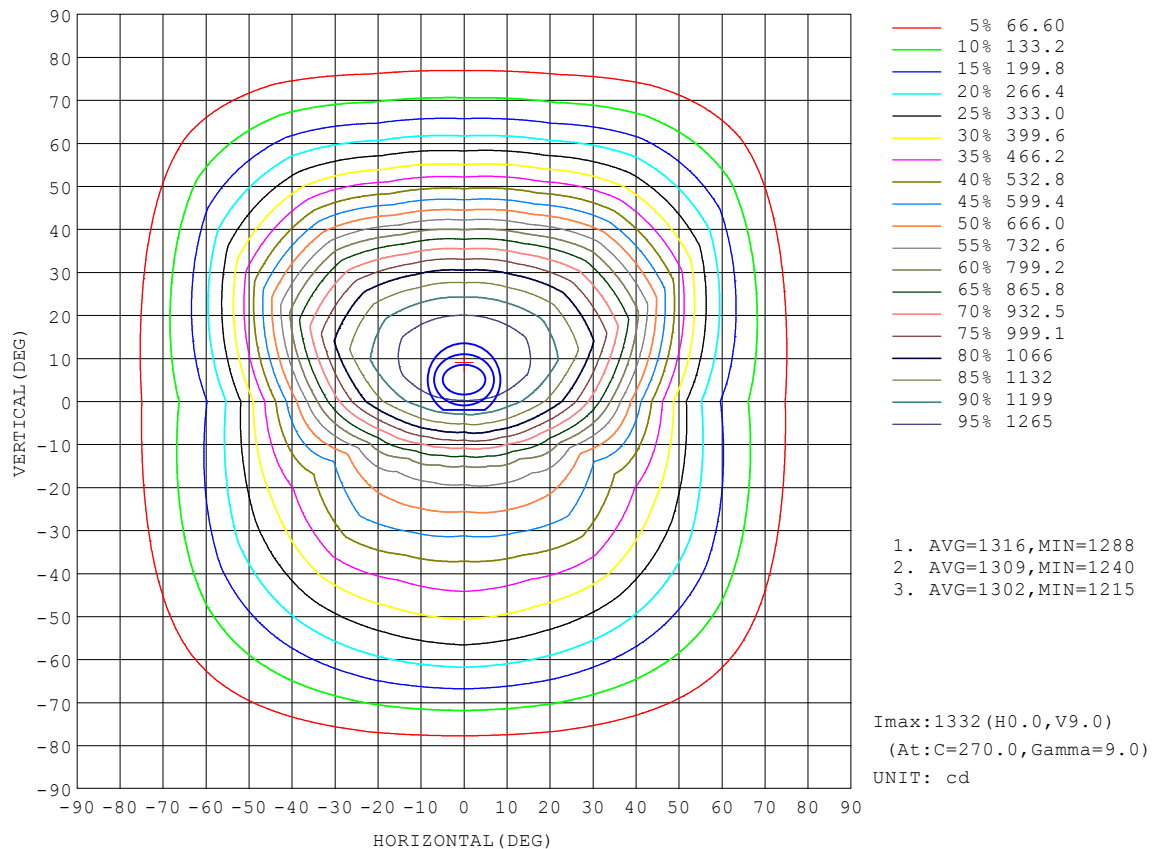
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	63	53	46	63	52	46	61	52	46	40
0.80	73	63	56	72	62	56	71	62	56	49
1.00	81	72	65	80	71	65	78	72	64	58
1.25	88	79	73	87	78	72	84	77	72	65
1.50	93	84	78	91	83	78	88	82	77	70
2.00	99	91	86	97	90	85	94	88	84	77
2.50	102	95	90	100	94	89	97	92	87	80
3.00	105	99	94	103	98	93	99	95	91	83
4.00	108	104	100	106	102	98	102	99	96	87
5.00	110	106	103	108	104	101	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:29 January 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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



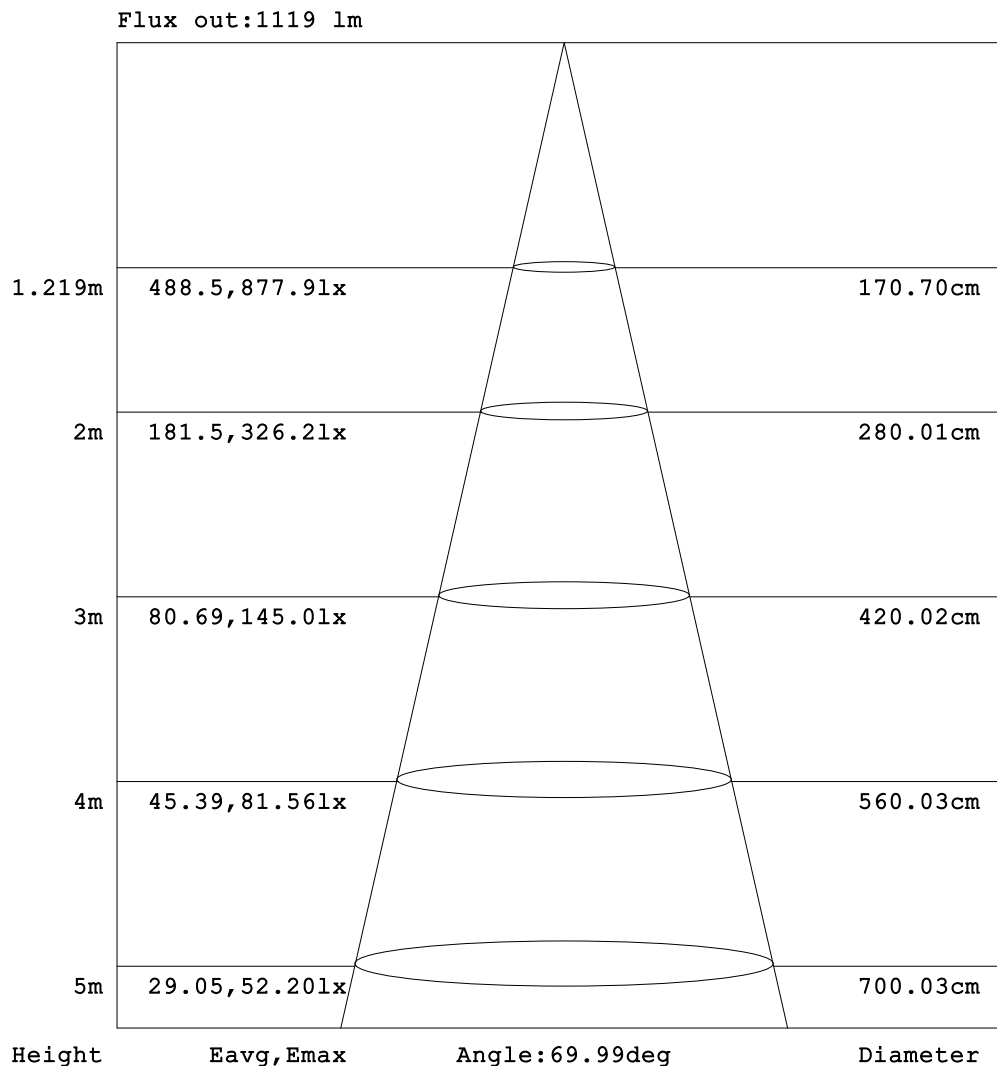
C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:29 January 2024

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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:



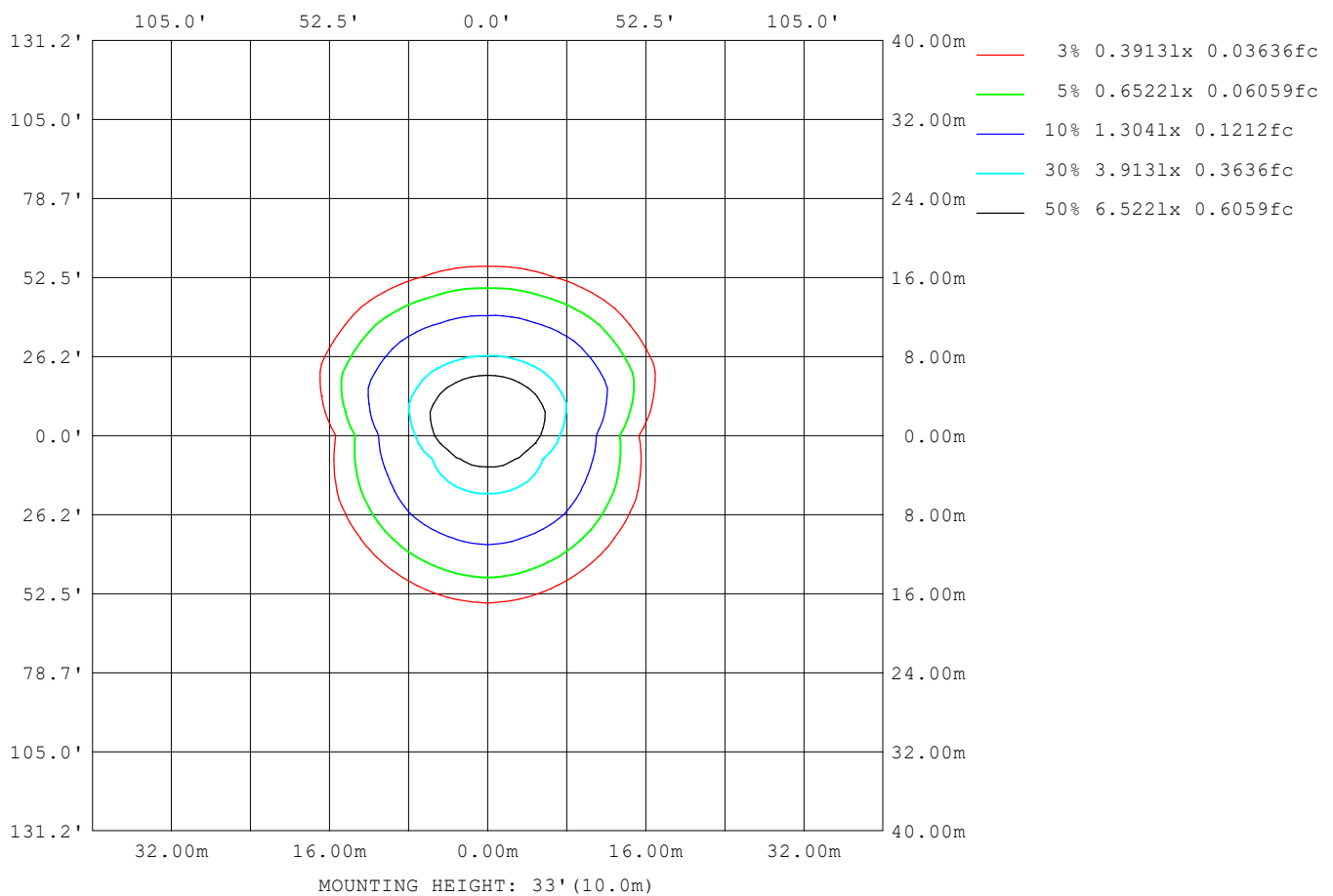
**Note:**The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:29 January 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:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_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:29 January 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:

### LED Avg.L Report

Test:U:239.8V I:0.1128A P:25.37W PF:0.9383 Lamp Flux:2494.89x1 lm		
NAME: HIP_1160_NA_WHT_ASYMMETRIC_HE_500mA_4000K CRI90	TYPE:LED	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:1
MFR.: DARKON	SUR.:	Shielding Angle:

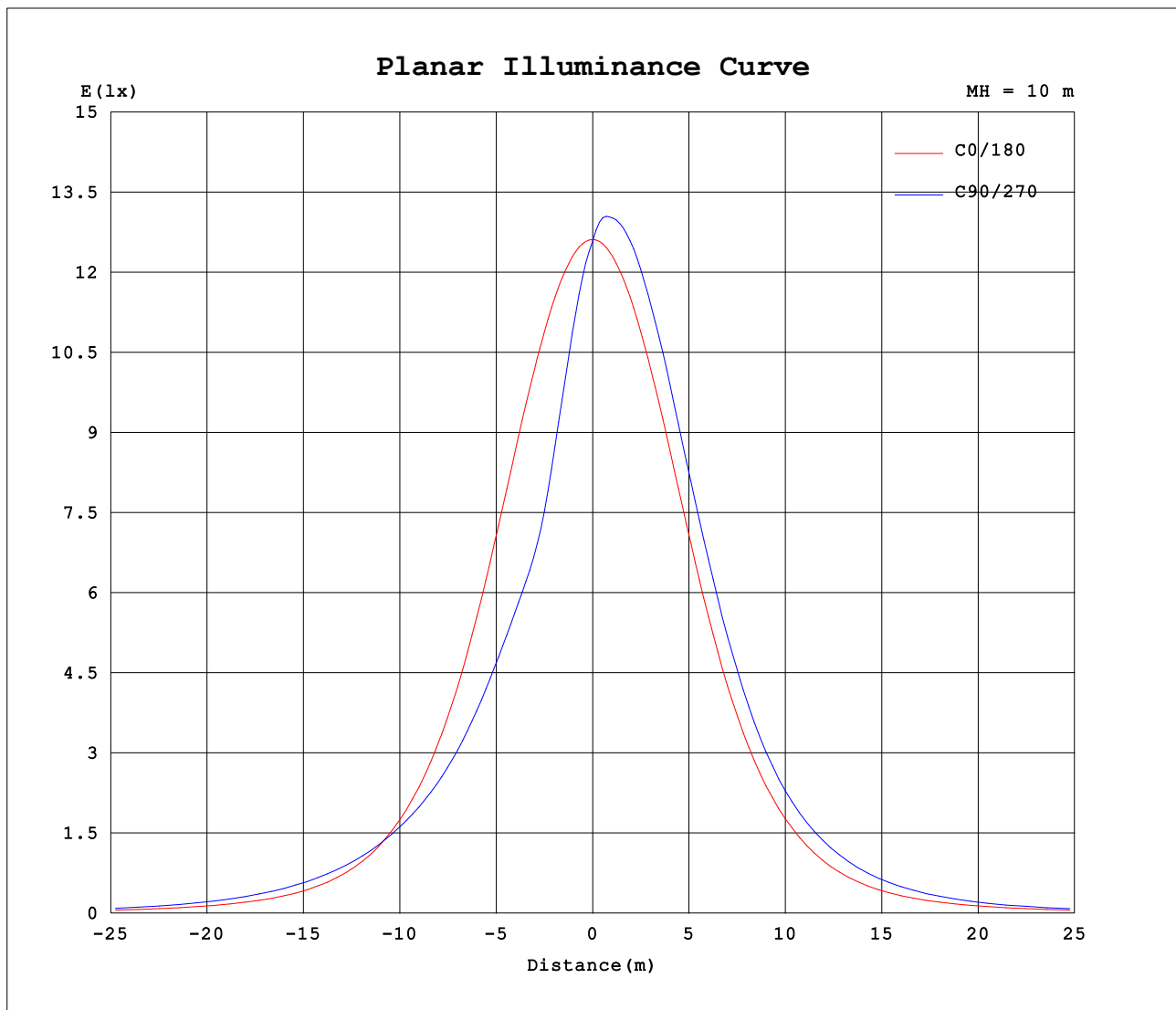
AvgL	cd/m2
L_0~180 (65) av	4965
L_0~180 (75) av	3690
L_0~180 (85) av	1676
L_90~270 (65) av	7538
L_90~270 (75) av	5075
L_90~270 (85) av	2366
L_45 (65) av	8257
L_45 (75) av	5380
L_45 (85) av	2404

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 22.5DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:JEFF  
Test Date:29 January 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: 29 January 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:

