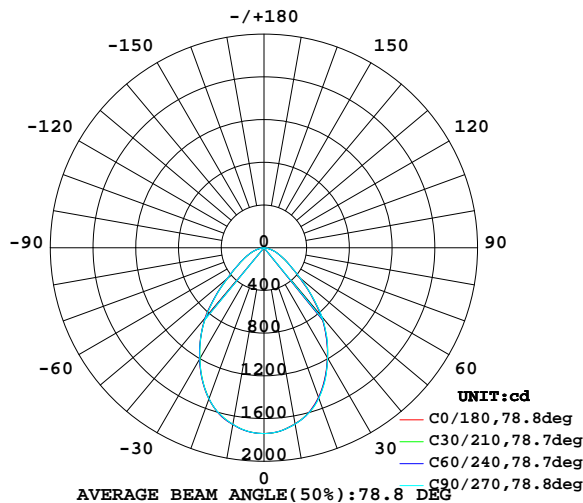


LUMINAIRE PHOTOMETRIC TEST REPORT

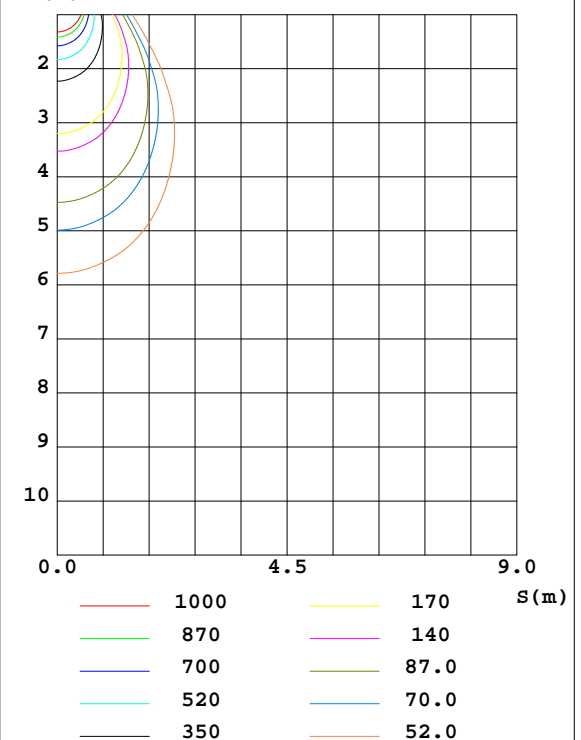
Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm		
NAME: LPA-DR-HAL8-35-857-90D-C3	TYPE:35W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.085	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 83.12 lm/W			
MODEL		I <sub>max</sub> (cd)	1740	S/MH(C0/180)	1.06
NOMINAL POWER(W)	35	LOR(%)	100.0	S/MH(C90/270)	1.06
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	2909.2	η UP,DN(C0-180)	0.0,49.7
NOMINAL FLUX(lm)	2909.24	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.3
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	240.6	η down(%)	100.0	CIBSE SHR MAX	1.15

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:DAMAN  
Test Date:2020-05-03

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:9.443m [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	1673	1676	1676	1676	1681	1680	1679	1678	0- 10	163.1	163.1	5.61,5.61
20	1490	1496	1502	1503	1508	1505	1506	1506	10- 20	451.4	614.4	21.1,21.1
30	1186	1191	1192	1193	1208	1204	1202	1201	20- 30	623.7	1238	42.6,42.6
40	831.1	839.4	845.4	850.7	861.0	851.4	848.1	848.6	30- 40	640.6	1879	64.6,64.6
50	430.2	436.7	441.9	443.4	451.3	448.6	448.5	447.7	40- 50	489.2	2368	81.4,81.4
60	225.4	226.3	226.4	226.0	233.4	232.9	232.6	231.0	50- 60	286.4	2654	91.2,91.2
70	113.5	113.6	112.4	112.6	117.9	118.2	117.5	117.2	60- 70	165.7	2820	96.9,96.9
80	33.90	31.64	33.72	31.40	36.97	33.82	36.15	34.05	70- 80	75.71	2896	99.5,99.5
90	0.5618	0.5384	0.5507	0.5329	0.7650	0.7448	0.7243	0.7470	80- 90	13.58	2909	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		

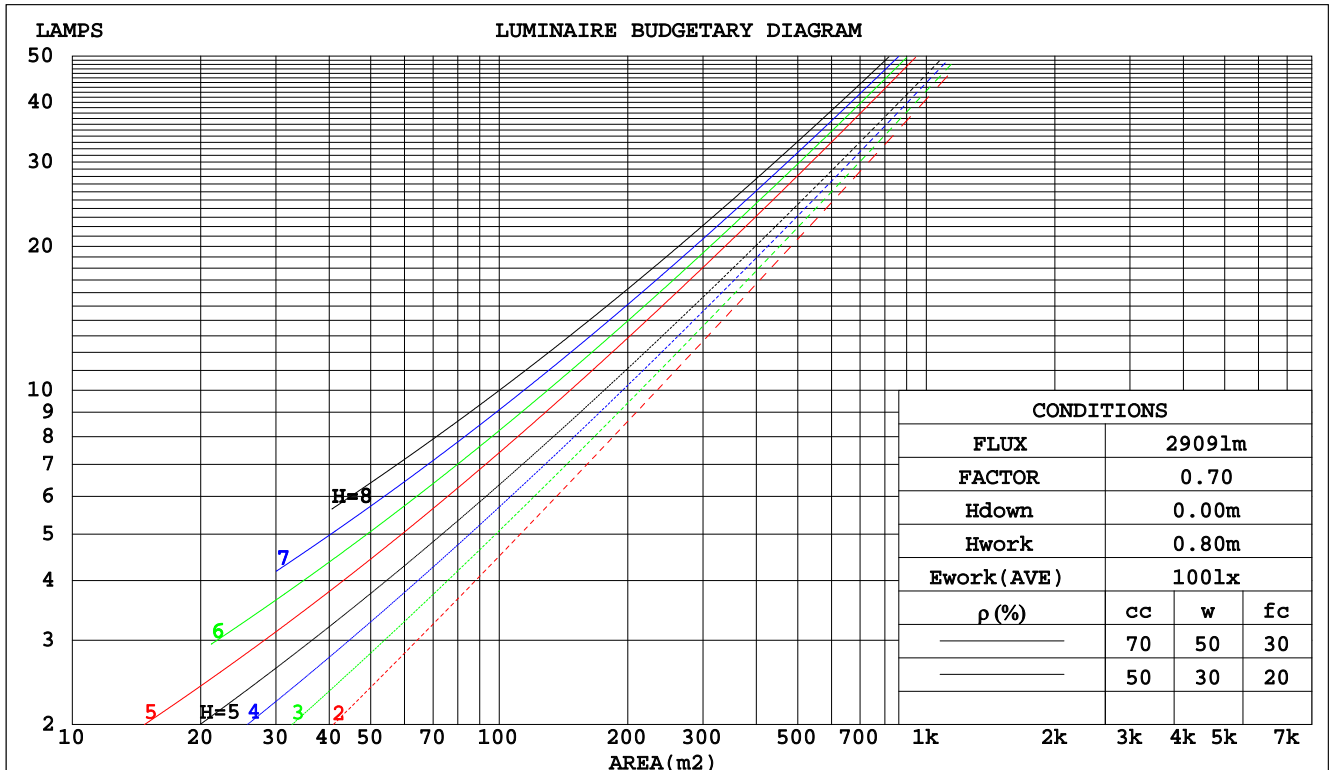
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMAN  
Test Date:2020-05-03

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:9.443m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm		
NAME: LPA-DR-HAL8-35-857-90D-C3	TYPE:35W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.085	PROTECTION 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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.99	.96	.97	.95	.93	.94	.92	.91	.89
2.0	.97	.91	.87	.95	.90	.86	.91	.87	.84	.88	.85	.82	.85	.83	.80	.78
3.0	.87	.81	.75	.86	.80	.75	.83	.78	.73	.80	.76	.72	.78	.74	.71	.69
4.0	.79	.72	.66	.78	.71	.66	.75	.70	.65	.73	.68	.64	.71	.67	.63	.61
5.0	.72	.64	.59	.71	.64	.58	.69	.63	.58	.67	.62	.57	.65	.61	.57	.55
6.0	.66	.58	.53	.65	.58	.53	.63	.57	.52	.62	.56	.52	.60	.55	.51	.49
7.0	.61	.53	.48	.60	.53	.47	.58	.52	.47	.57	.51	.47	.56	.51	.47	.45
8.0	.56	.49	.43	.55	.48	.43	.54	.48	.43	.53	.47	.43	.52	.47	.43	.41
9.0	.52	.45	.40	.51	.44	.40	.50	.44	.39	.49	.43	.39	.48	.43	.39	.37
10.0	.48	.41	.37	.48	.41	.36	.47	.41	.36	.46	.40	.36	.45	.40	.36	.34



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMAN  
 Test Date:2020-05-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:9.443m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm					
NAME: LPA-DR-HAL8-35-857-90D-C3			TYPE:35W		WEIGHT:
DIM.:			SPEC.:5700K		SERIAL No.:1
MFR.:			SUR.:0.085		PROTECTION 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	.241	.137	.043	.234	.133	.042	.221	.127	.040	.209	.120	.039	.198	.115	.037		
2.0	.232	.127	.039	.226	.125	.038	.215	.120	.037	.205	.115	.036	.195	.110	.035		
3.0	.220	.117	.035	.214	.115	.035	.205	.111	.034	.196	.107	.033	.187	.104	.032		
4.0	.207	.107	.032	.202	.106	.031	.194	.103	.031	.186	.100	.030	.178	.097	.030		
5.0	.194	.099	.029	.190	.098	.028	.183	.095	.028	.176	.093	.028	.169	.090	.027		
6.0	.183	.092	.026	.180	.091	.026	.173	.089	.026	.166	.087	.025	.161	.085	.025		
7.0	.173	.085	.024	.169	.084	.024	.163	.083	.024	.158	.081	.024	.153	.079	.023		
8.0	.163	.080	.022	.160	.079	.022	.155	.077	.022	.150	.076	.022	.145	.074	.022		
9.0	.154	.075	.021	.152	.074	.021	.147	.073	.021	.142	.071	.020	.138	.070	.020		
10.0	.146	.070	.019	.144	.070	.019	.140	.068	.019	.136	.067	.019	.132	.066	.019		

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	.176	.157	.140	.150	.135	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.164	.132	.105	.141	.114	.091	.096	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010	
4.0	.146	.100	.065	.126	.086	.056	.086	.060	.040	.050	.035	.023	.016	.011	.008	
5.0	.139	.089	.053	.119	.077	.046	.082	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.132	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.126	.073	.037	.108	.064	.032	.075	.045	.023	.043	.026	.014	.014	.009	.004	
8.0	.120	.067	.032	.103	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.114	.062	.028	.098	.054	.024	.068	.038	.017	.040	.022	.010	.013	.007	.003	
10.0	.109	.058	.024	.094	.051	.021	.065	.036	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMAN  
Test Date:2020-05-03

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:9.443m [K=1.0000]  
Remarks:

### Uncorrected UGR Table

Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm											
NAME:LPA-DR-HAL8-35-857-90D-C3					TYPE:35W			WEIGHT:			
DIM.:					SPEC.:5700K			SERIAL No.:1			
MFR.:					SUR.:0.085			PROTECTION 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	23.1	24.4	23.4	24.6	24.8	23.1	24.4	23.4	24.6	24.8	
	3H	23.7	24.9	24.0	25.1	25.3	23.7	24.9	24.0	25.1	25.3
	4H	23.9	25.0	24.2	25.3	25.5	23.9	25.0	24.2	25.3	25.5
	6H	24.0	25.0	24.3	25.3	25.6	24.0	25.0	24.3	25.3	25.6
	8H	24.0	25.0	24.3	25.3	25.5	24.0	25.0	24.3	25.3	25.5
	12H	24.0	24.9	24.3	25.2	25.5	24.0	24.9	24.3	25.2	25.5
4H	2H	23.3	24.4	23.6	24.7	24.9	23.3	24.5	23.6	24.7	24.9
	3H	24.1	25.1	24.4	25.3	25.6	24.1	25.1	24.4	25.3	25.6
	4H	24.4	25.3	24.7	25.6	25.9	24.4	25.3	24.7	25.6	25.9
	6H	24.5	25.3	24.9	25.6	26.0	24.5	25.3	24.9	25.6	26.0
	8H	24.6	25.3	25.0	25.6	26.0	24.5	25.3	24.9	25.6	26.0
	12H	24.5	25.2	25.0	25.6	26.0	24.5	25.2	24.9	25.6	26.0
8H	4H	24.4	25.1	24.8	25.5	25.9	24.4	25.1	24.8	25.5	25.9
	6H	24.6	25.2	25.1	25.6	26.0	24.6	25.2	25.1	25.6	26.0
	8H	24.7	25.2	25.1	25.6	26.1	24.7	25.2	25.1	25.6	26.1
	12H	24.7	25.1	25.2	25.6	26.1	24.7	25.1	25.2	25.6	26.0
12H	4H	24.4	25.1	24.8	25.4	25.8	24.4	25.1	24.8	25.4	25.8
	6H	24.6	25.1	25.1	25.6	26.0	24.6	25.1	25.1	25.6	26.0
	8H	24.7	25.1	25.2	25.6	26.0	24.7	25.1	25.1	25.6	26.0
Variations with the observer position at spacings:											
S = 1.0H	+ 0.7 / - 0.9					+ 0.7 / - 0.9					
1.5H	+ 0.7 / - 0.6					+ 0.7 / - 0.6					
2.0H	+ 1.6 / - 1.0					+ 1.6 / - 1.0					

CIE Pub.117 Corrected 2909 lm Total Lamp Luminous Flux.(8log(F/F0) = 3.7)

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMAN  
Test Date:2020-05-03

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:9.443m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm		
NAME: LPA-DR-HAL8-35-857-90D-C3	TYPE:35W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.085	PROTECTION ANGLE:

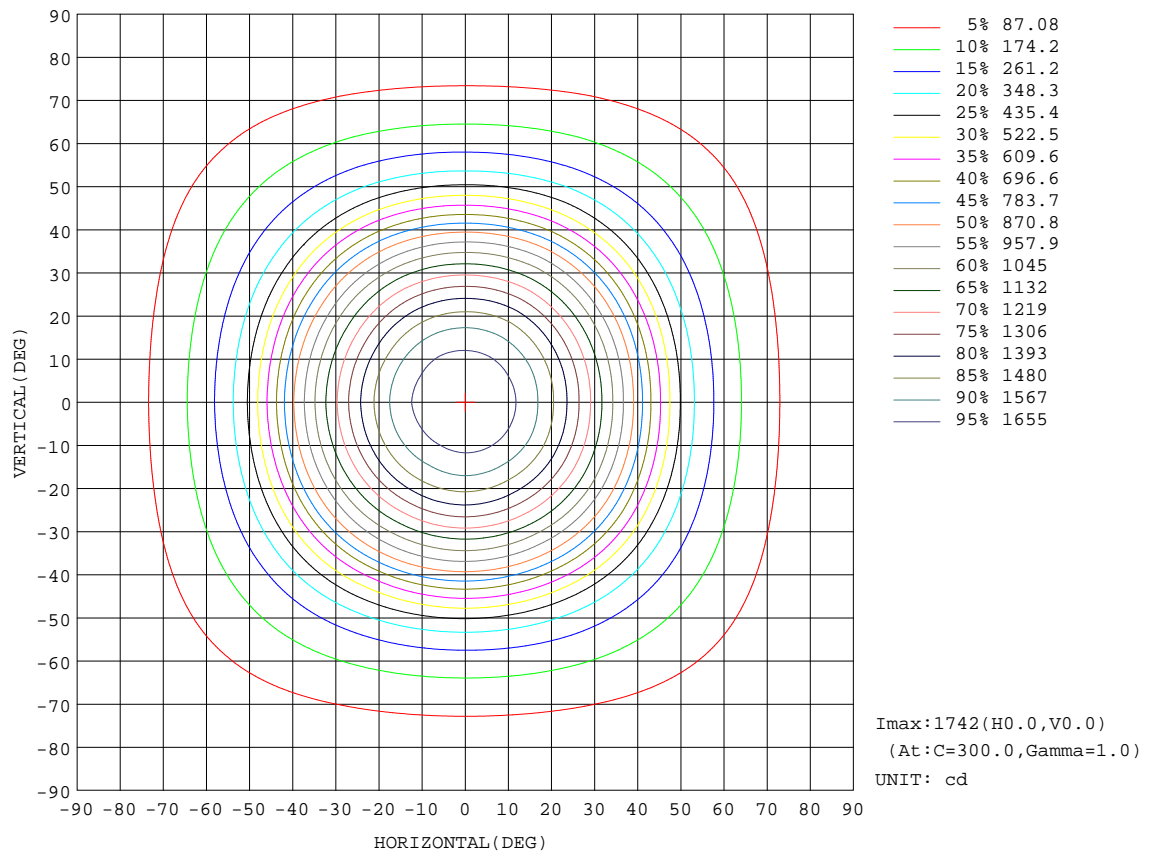
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	69	60	54	69	60	54	68	59	54	49
0.80	79	70	64	78	69	64	76	69	63	58
1.00	86	78	72	85	77	72	83	78	71	65
1.25	92	84	79	91	84	78	89	82	78	72
1.50	96	89	84	95	88	83	92	86	82	76
2.00	102	95	90	100	94	90	97	92	88	82
2.50	104	99	94	103	97	93	99	95	91	84
3.00	107	102	98	105	100	97	101	98	94	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	104	105	103	100	92
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:DAMAN  
Test Date:2020-05-03

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:9.443m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm		
NAME: LPA-DR-HAL8-35-857-90D-C3	TYPE:35W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.085	PROTECTION ANGLE:



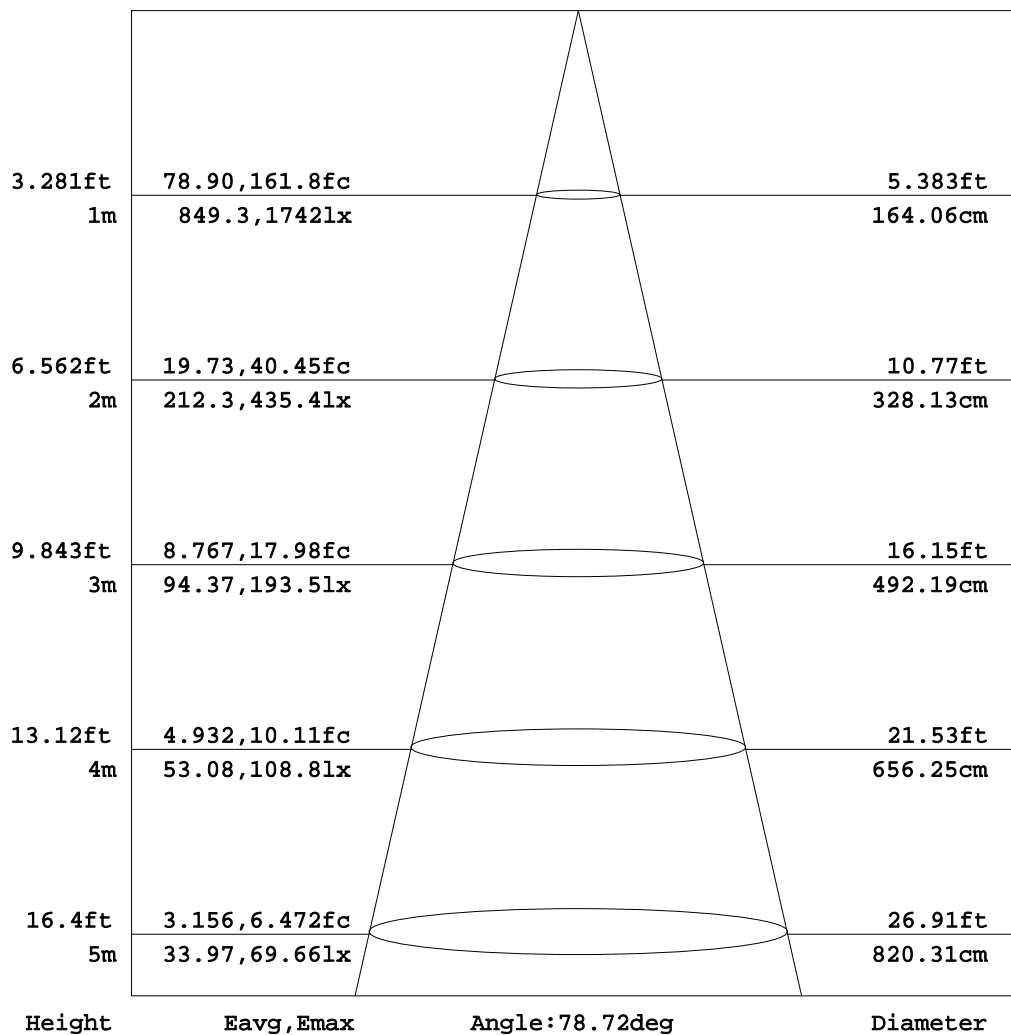
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:DAMAN  
Test Date:2020-05-03

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity:65.0%  
Test Distance:9.443m [K=1.0000]  
Remarks:

### AAI Figure

Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm		
NAME: LPA-DR-HAL8-35-857-90D-C3	TYPE:35W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.085	PROTECTION ANGLE:

Flux out:1879 lm



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

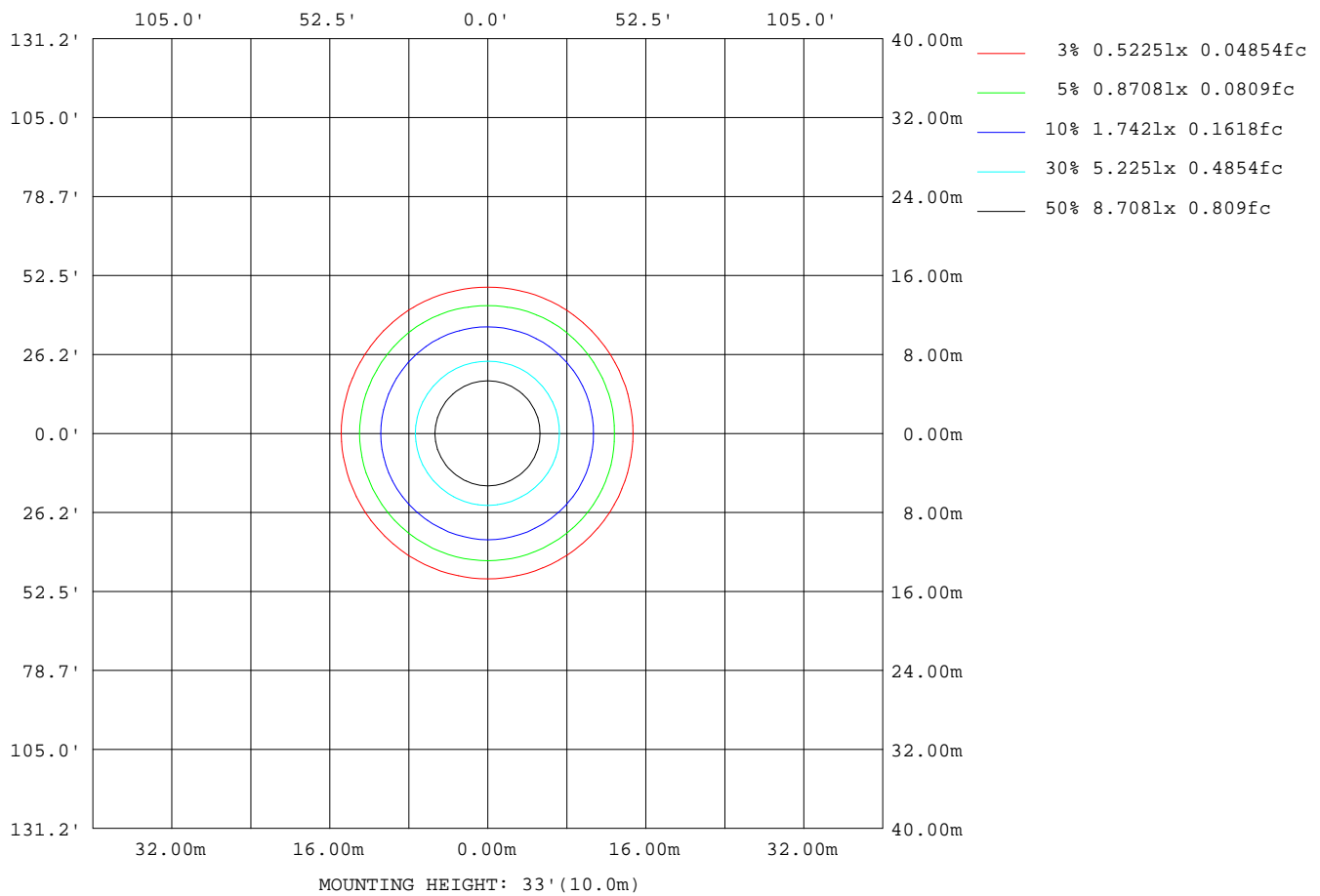
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMAN  
Test Date: 2020-05-03

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity: 65.0%  
Test Distance: 9.443m [K=1.0000]  
Remarks:



### ISOLUX DIAGRAM

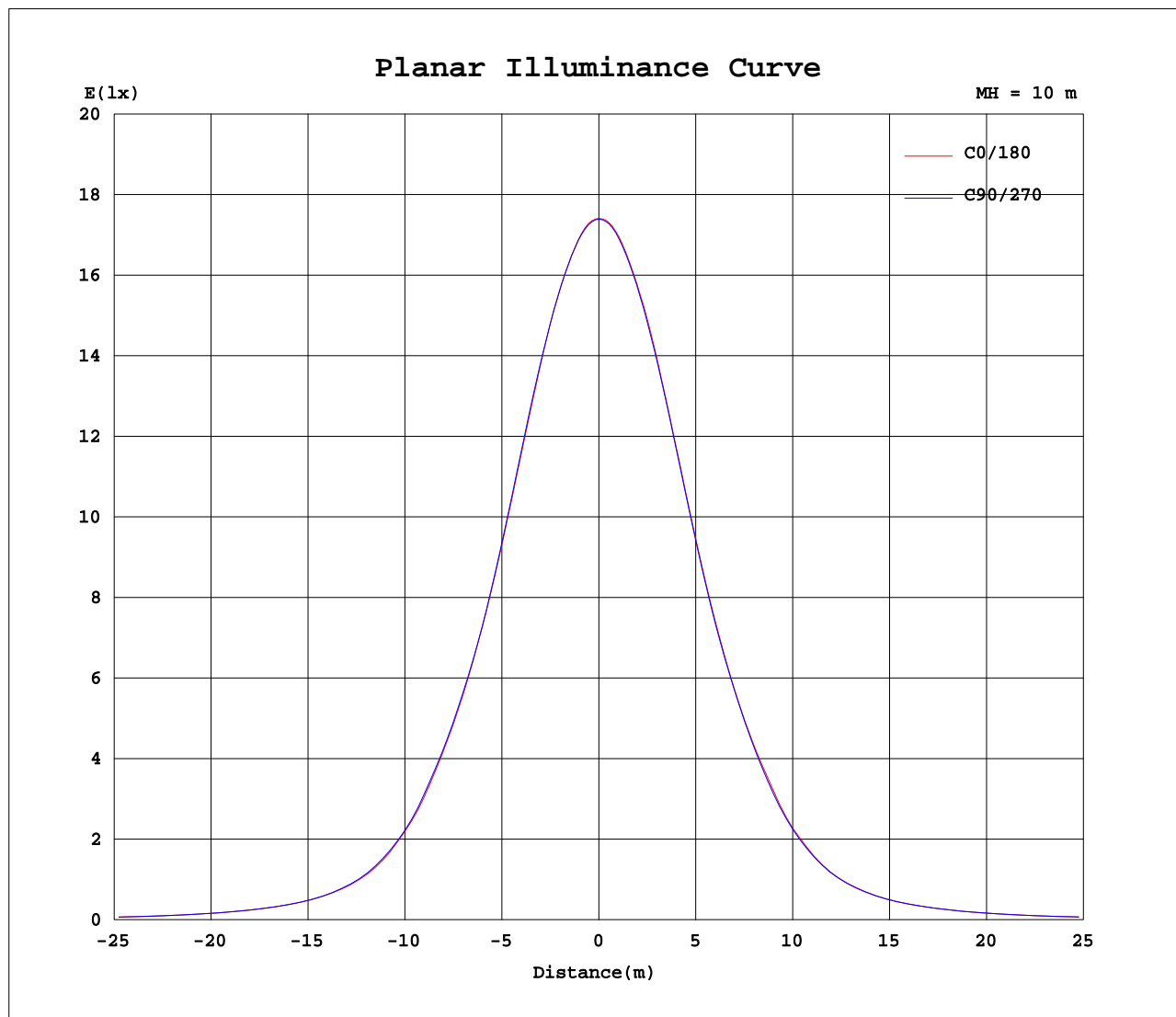
Test:U:240.6V I:0.1520A P:35.00W PF:0.9530 Lamp Flux:2909.24x1 lm		
NAME: LPA-DR-HAL8-35-857-90D-C3	TYPE:35W	WEIGHT:
DIM.:	SPEC.:5700K	SERIAL No.:1
MFR.:	SUR.:0.085	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMAN  
 Test Date:2020-05-03

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
 Humidity:65.0%  
 Test Distance:9.443m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: DAMAN  
Test Date: 2020-05-03

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.276  
Humidity: 65.0%  
Test Distance: 9.443m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.276
Humidity:65.0%
Test Distance:9.443m [K=1.0000]
Remarks:

```