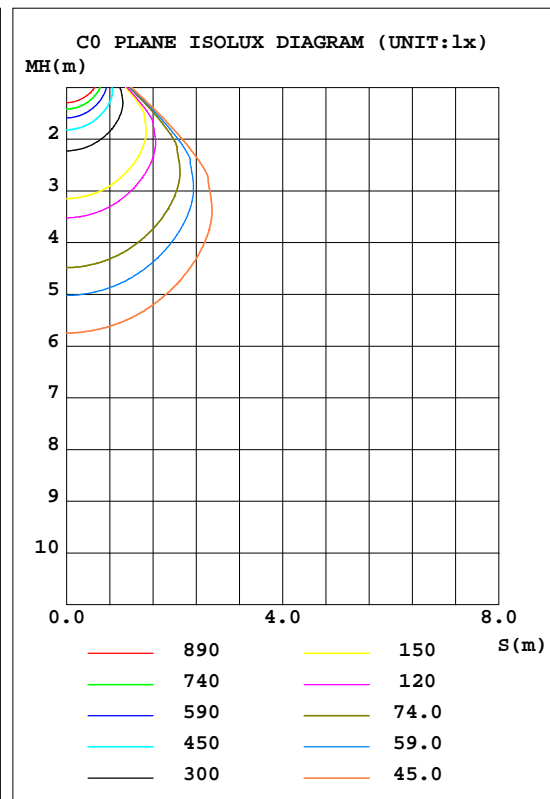
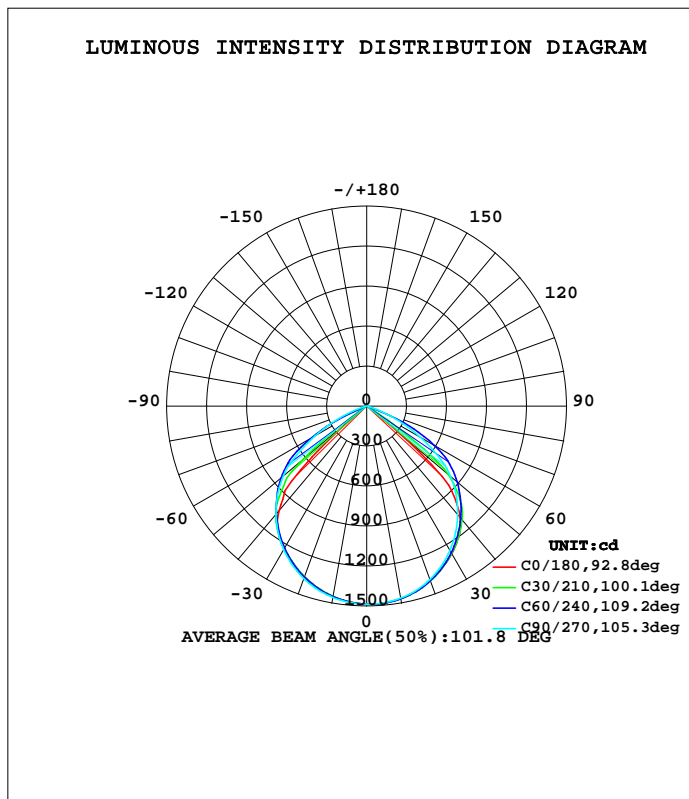


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 89.55 lm/W			
MODEL	RD01-35W	I <sub>max</sub> (cd)	1487	S/MH(C0/180)	1.24
NOMINAL POWER(W)	35	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	240	TOTAL FLUX(lm)	3152.2	η UP, DN(C0-180)	0.0, 49.8
NOMINAL FLUX(lm)	3152.21	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	240.0	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

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	1451	1451	1458	1466	1466	1468	1464	1454	0- 10	140.6	140.6	4.46,4.46
20	1363	1365	1378	1394	1395	1396	1386	1366	10- 20	402.6	543.2	17.2,17.2
30	1240	1232	1244	1273	1278	1273	1250	1233	20- 30	609.3	1152	36.6,36.6
40	1021	1059	1059	1109	1093	1106	1063	1053	30- 40	732.6	1885	59.8,59.8
50	179.2	739.1	816.2	849.1	394.3	845.2	822.4	677.6	40- 50	710.2	2595	82.3,82.3
60	47.31	261.5	448.1	311.7	50.79	315.3	458.5	254.5	50- 60	401.0	2996	95.1,95.1
70	13.80	15.65	97.05	22.37	17.03	33.88	102.9	14.71	60- 70	144.1	3140	99.6,99.6
80	1.434	1.636	2.040	2.598	1.223	2.430	2.323	1.675	70- 80	10.91	3151	100,100
90	0	0.5744	1.035	0.3293	0	0.6999	1.388	0.9339	80- 90	0.8329	3152	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		

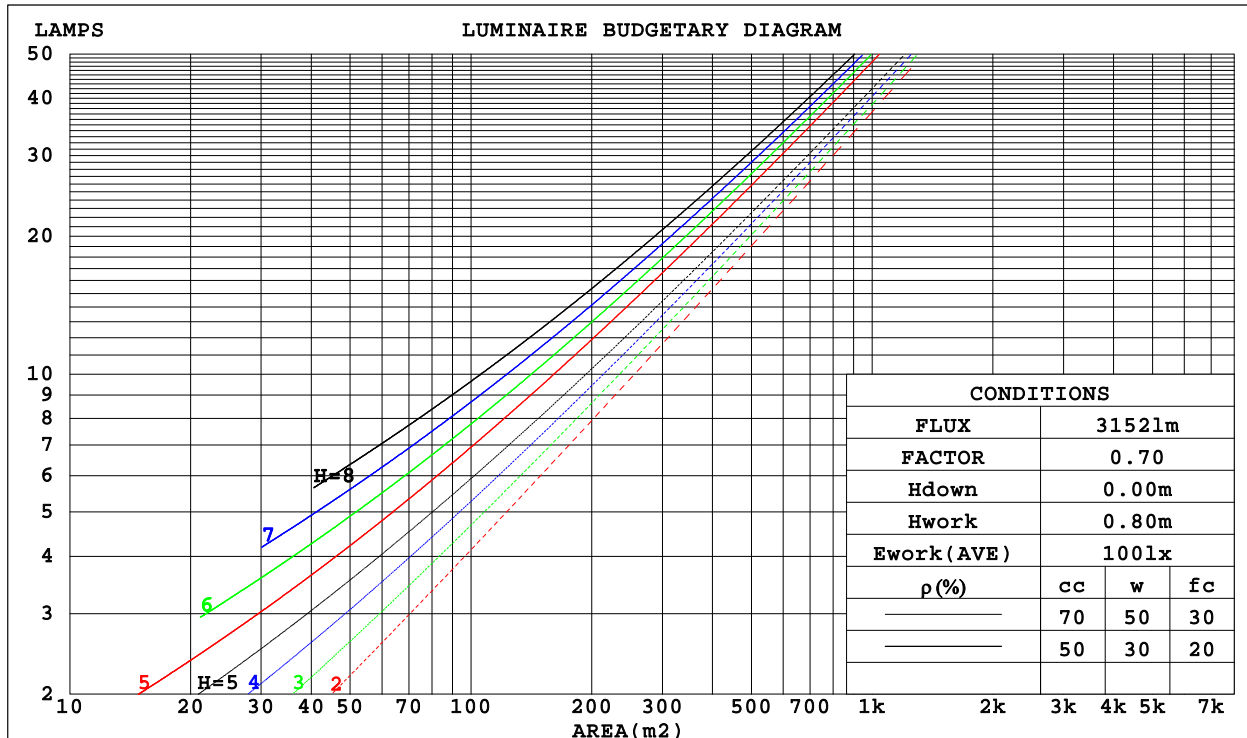
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

$\gamma$  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:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	PROTECTION 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	1.08	1.05	1.02	1.06	1.03	1.00	1.02	.99	.97	.98	.96	.94	.94	.93	.91	.89
2.0	.97	.92	.87	.95	.90	.86	.92	.88	.84	.89	.85	.82	.86	.83	.81	.79
3.0	.87	.81	.75	.86	.80	.75	.83	.78	.73	.80	.76	.72	.78	.74	.71	.69
4.0	.79	.71	.65	.77	.70	.65	.75	.69	.64	.73	.68	.63	.71	.66	.63	.61
5.0	.71	.63	.58	.70	.63	.57	.68	.62	.57	.66	.61	.56	.64	.60	.56	.54
6.0	.65	.57	.51	.64	.56	.51	.62	.55	.50	.60	.55	.50	.59	.54	.50	.48
7.0	.59	.51	.46	.58	.51	.45	.57	.50	.45	.55	.49	.45	.54	.49	.45	.43
8.0	.54	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.40	.50	.44	.40	.38
9.0	.50	.42	.37	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.35
10.0	.46	.39	.34	.46	.38	.34	.45	.38	.34	.44	.38	.33	.43	.37	.33	.32



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

$\gamma$  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:

WEC AND CCEC

Test:U:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	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	.232	.132	.042	.225	.128	.041	.212	.122	.039	.200	.115	.037	.189	.110	.035	
2.0	.229	.125	.038	.223	.123	.038	.212	.118	.037	.201	.113	.035	.192	.109	.034	
3.0	.220	.117	.035	.215	.115	.035	.205	.111	.034	.196	.107	.033	.187	.104	.032	
4.0	.209	.109	.032	.205	.107	.032	.196	.104	.031	.188	.101	.030	.181	.098	.030	
5.0	.198	.101	.029	.194	.100	.029	.187	.097	.029	.179	.095	.028	.173	.092	.028	
6.0	.187	.094	.027	.184	.093	.027	.177	.091	.026	.171	.089	.026	.165	.087	.026	
7.0	.177	.088	.025	.174	.087	.025	.168	.085	.024	.162	.083	.024	.157	.082	.024	
8.0	.168	.082	.023	.165	.081	.023	.160	.080	.023	.154	.078	.023	.150	.077	.022	
9.0	.159	.077	.021	.157	.076	.021	.152	.075	.021	.147	.074	.021	.143	.072	.021	
10.0	.151	.072	.020	.149	.072	.020	.144	.071	.020	.140	.070	.020	.136	.068	.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	.175	.157	.141	.150	.135	.121	.102	.093	.084	.059	.054	.049	.019	.017	.016	
2.0	.164	.132	.106	.140	.114	.091	.096	.079	.064	.055	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.071	.091	.068	.050	.053	.040	.029	.017	.013	.010	
4.0	.147	.100	.064	.126	.086	.056	.087	.060	.039	.050	.035	.023	.016	.011	.008	
5.0	.140	.089	.052	.120	.077	.045	.083	.054	.032	.048	.032	.019	.015	.010	.006	
6.0	.133	.081	.043	.115	.070	.037	.079	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.127	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.072	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.116	.063	.027	.100	.055	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.067	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

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:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm										
NAME: RD01-35W					TYPE:35W			WEIGHT:		
DIM.:					SPEC.:3000K			SERIAL No.:1		
MFR.:					SUR.:0.164x0.08			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	24.5	25.8	24.8	26.0	26.2	28.5	29.8	28.8	30.0	30.2
3H	24.3	25.5	24.6	25.7	26.0	28.6	29.8	28.9	30.0	30.2
4H	24.2	25.4	24.5	25.6	25.8	28.5	29.6	28.8	29.9	30.1
6H	24.1	25.2	24.5	25.5	25.7	28.4	29.5	28.7	29.7	30.0
8H	24.1	25.1	24.4	25.4	25.7	28.4	29.4	28.7	29.6	29.9
12H	24.0	25.0	24.4	25.3	25.6	28.3	29.3	28.7	29.6	29.9
4H 2H	24.9	26.0	25.2	26.3	26.5	28.4	29.5	28.7	29.8	30.0
3H	24.7	25.7	25.1	26.0	26.3	28.5	29.4	28.8	29.7	30.0
4H	24.6	25.5	25.0	25.8	26.1	28.4	29.2	28.7	29.6	29.9
6H	24.5	25.3	24.9	25.6	26.0	28.3	29.0	28.7	29.4	29.7
8H	24.5	25.2	24.9	25.6	25.9	28.2	28.9	28.6	29.3	29.7
12H	24.4	25.1	24.9	25.5	25.9	28.2	28.8	28.6	29.2	29.6
8H 4H	24.5	25.2	24.9	25.6	25.9	28.2	28.9	28.6	29.3	29.7
6H	24.4	25.0	24.8	25.4	25.8	28.1	28.7	28.6	29.1	29.5
8H	24.4	24.9	24.8	25.3	25.7	28.1	28.6	28.6	29.0	29.5
12H	24.3	24.8	24.8	25.2	25.7	28.1	28.5	28.5	28.9	29.4
12H 4H	24.5	25.1	24.9	25.5	25.9	28.2	28.8	28.6	29.2	29.6
6H	24.4	24.9	24.8	25.3	25.7	28.1	28.6	28.6	29.0	29.5
8H	24.3	24.8	24.8	25.2	25.7	28.1	28.5	28.5	28.9	29.4
Variations with the observer position at spacings:										
S = 1.0H	+ 2.5 / - 8.9					+ 0.6 / - 0.8				
1.5H	+ 1.5 / -10.7					+ 1.2 / - 1.0				
2.0H	+ 5.0 / -11.2					+ 1.5 / - 3.8				

CIE Pub.117 Corrected 3152 lm Total Lamp Luminous Flux.(8log(F/F0) = 4.0)

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

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:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	PROTECTION ANGLE:

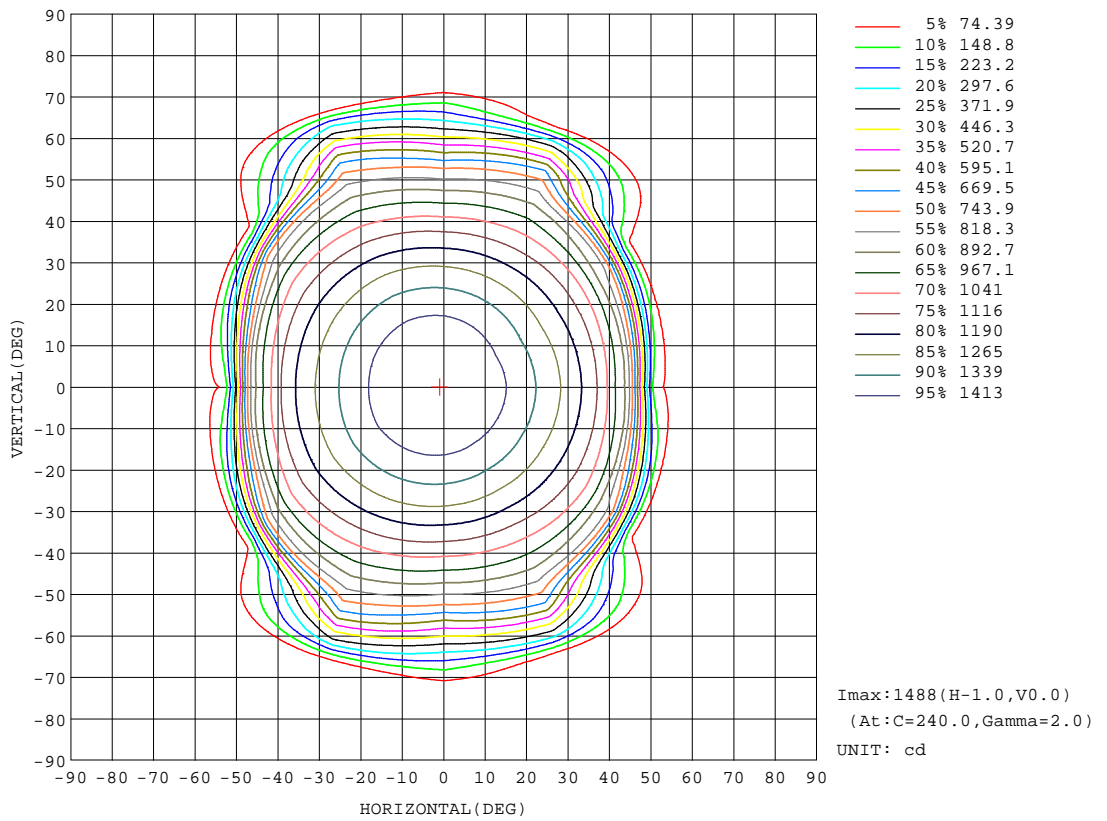
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	66	55	49	65	55	49	64	55	49	43
0.80	76	66	60	75	66	60	74	65	60	54
1.00	85	76	70	84	75	70	82	76	69	63
1.25	92	83	78	90	83	77	88	81	77	71
1.50	96	88	83	95	88	83	92	86	82	75
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	101	97	101	98	95	87
4.00	110	106	102	108	104	101	104	101	98	90
5.00	112	108	105	109	106	103	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:DAMIN  
 Test Date:2018-12-07

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:

ISOCANDELA DIAGRAM

Test:U:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	PROTECTION ANGLE:



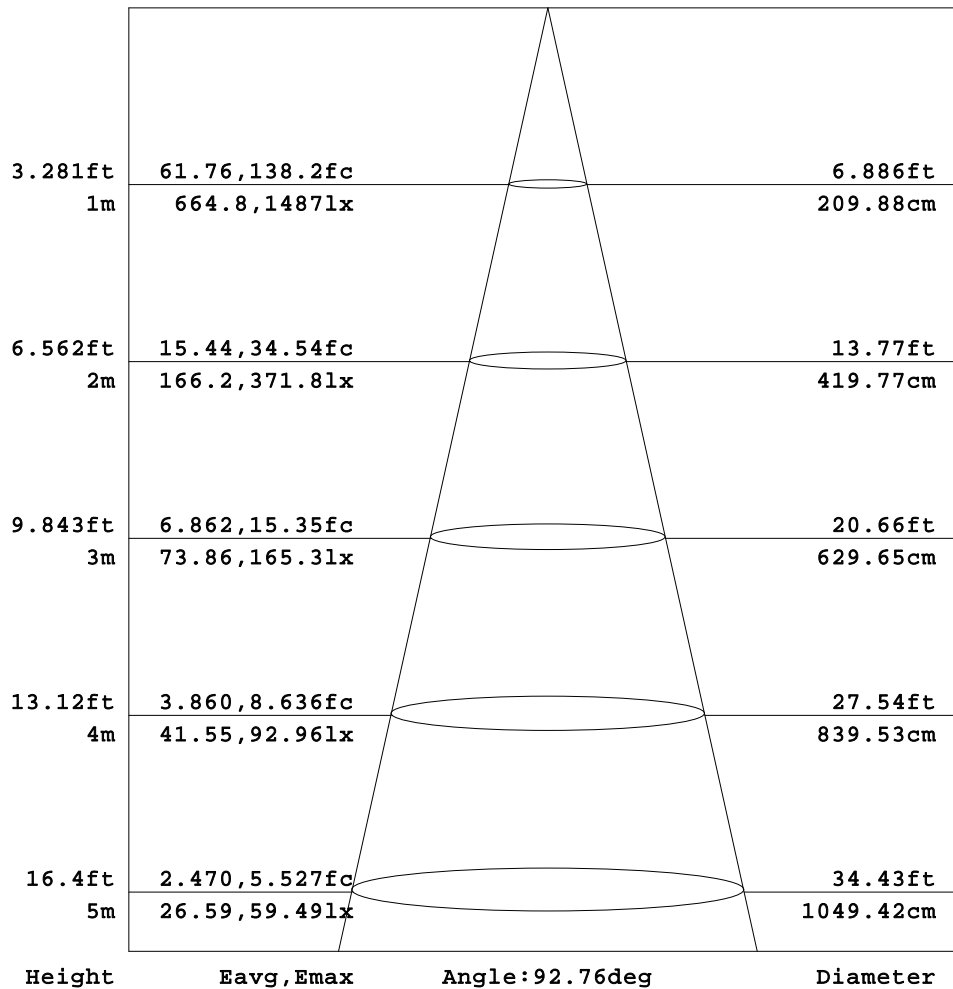
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

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:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	PROTECTION ANGLE:

Flux out:2402 lm



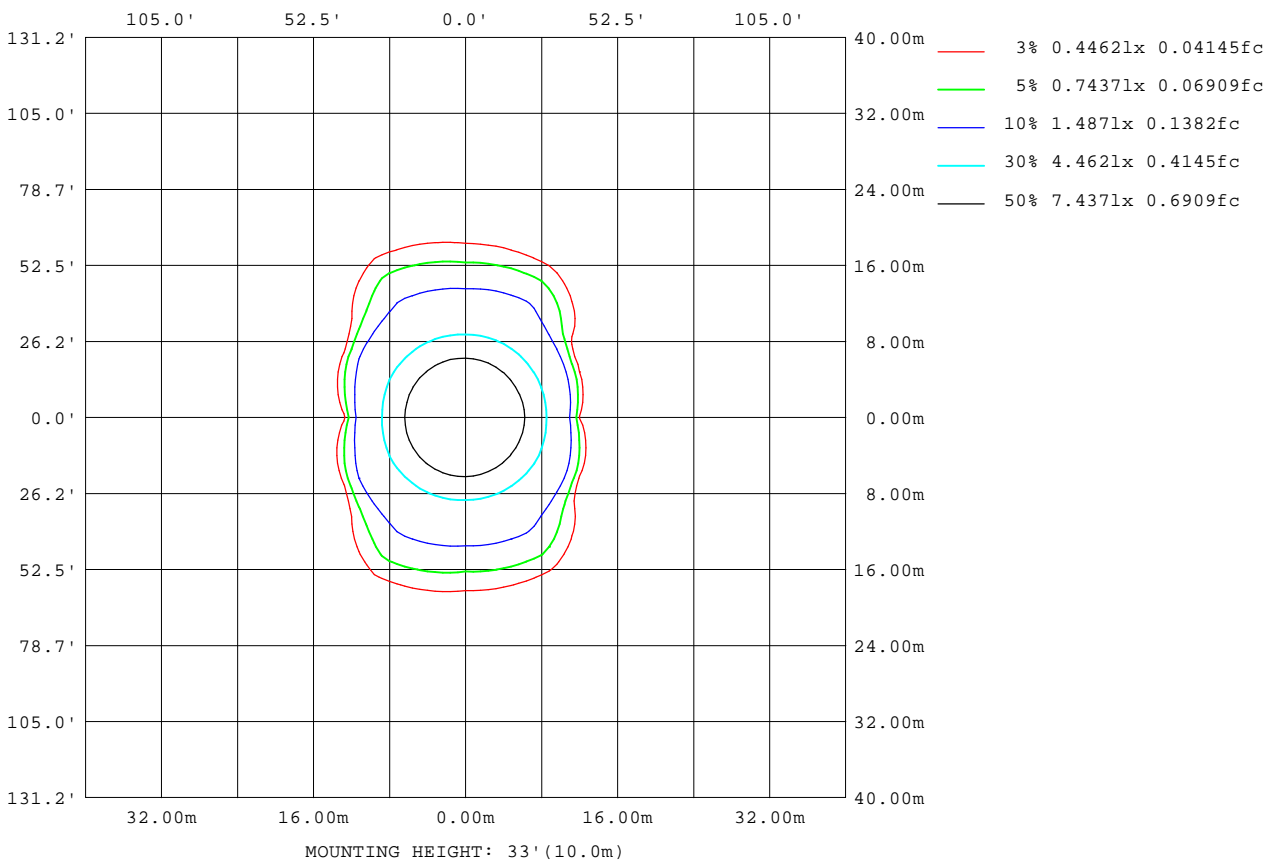
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

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

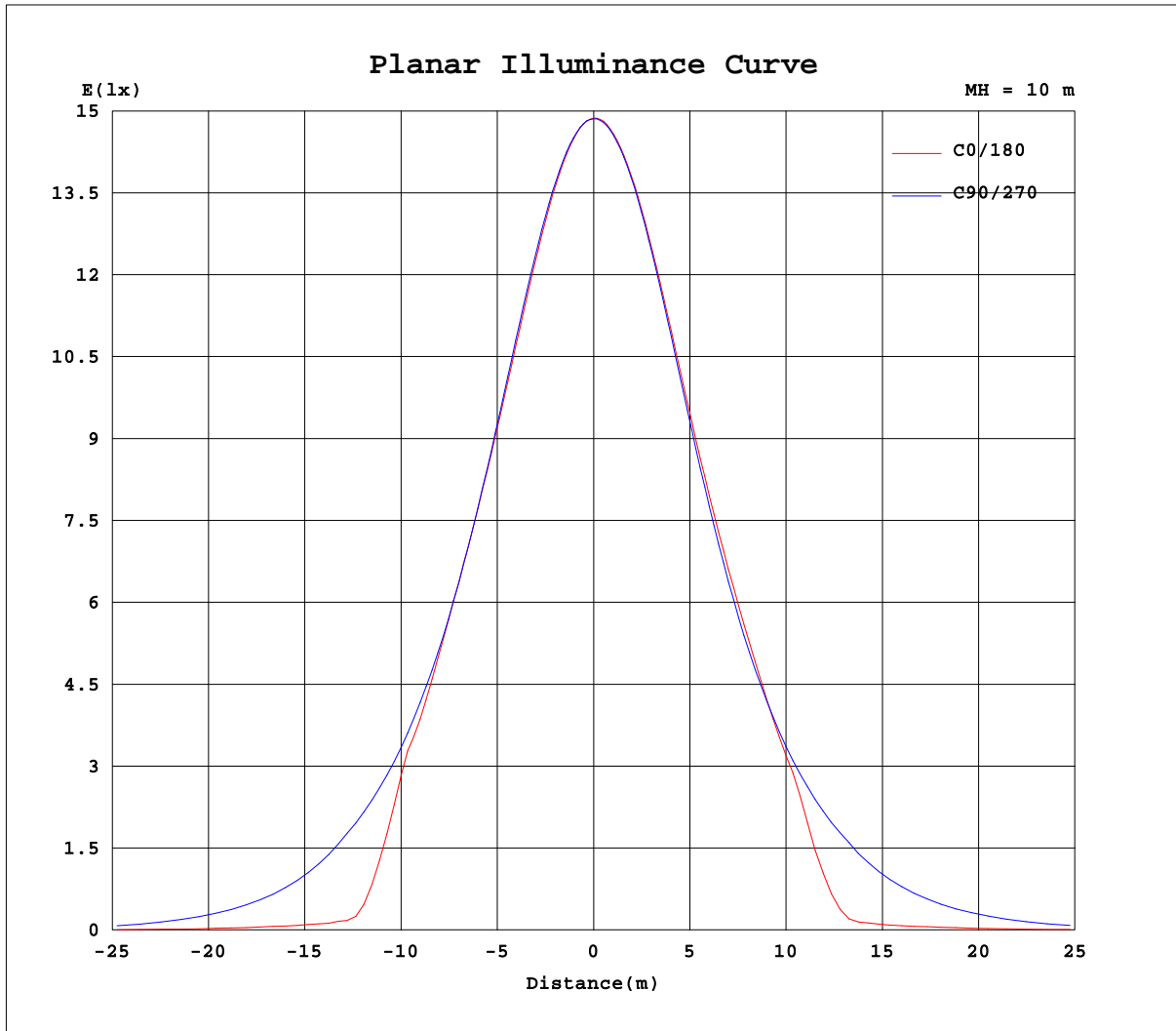
Test:U:240.0V I:0.1530A P:35.20W PF:0.9560 Lamp Flux:3152.21x1 lm		
NAME: RD01-35W	TYPE:35W	WEIGHT:
DIM.:	SPEC.:3000K	SERIAL No.:1
MFR.:	SUR.:0.164x0.08	PROTECTION ANGLE:



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:DAMIN  
 Test Date:2018-12-07

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: DAMIN  
 Test Date: 2018-12-07

$\gamma$  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:

