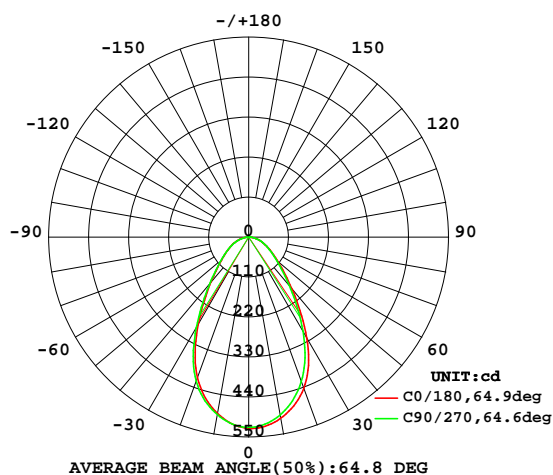


LUMINAIRE PHOTOMETRIC TEST REPORT

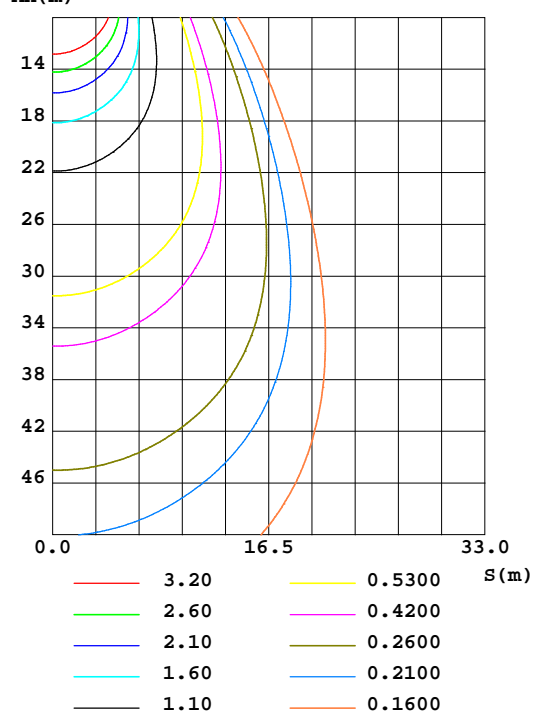
Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)P0170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 80.87 lm/W			
MODEL	QS-819-10W	I _{max} (cd)	526.7	S/MH(C0/180)	1.01
NOMINAL POWER(W)	10	LOR(%)	100.0	S/MH(C90/270)	0.97
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	745.92	η UP,DN(C0-180)	0.0,51.4
NOMINAL FLUX(lm)	805.919	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.6
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	230.7	η down(%)	100.0	CIBSE SHR MAX	1.00

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity:65.0%
Test Distance:6.600m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	Φ lum, lamp
10	506.6	496.9	493.2	496.5					0- 10	48.81	48.81	6.54, 6.54
20	443.1	423.3	412.0	422.2					10- 20	130.9	179.7	24.1, 24.1
30	319.9	299.2	278.9	288.9					20- 30	167.0	346.7	46.5, 46.5
40	184.6	174.2	161.6	166.2					30- 40	142.9	489.6	65.6, 65.6
50	105.9	101.7	97.43	99.44					40- 50	101.7	591.3	79.3, 79.3
60	64.70	63.77	62.70	62.91					50- 60	72.08	663.4	88.9, 88.9
70	37.74	38.85	38.01	36.70					60- 70	49.60	713.0	95.6, 95.6
80	14.86	17.11	15.47	12.64					70- 80	27.83	740.9	99.3, 99.3
90	0	0	0	0					80- 90	5.063	745.9	100, 100
100	0	0	0	0					90-100	0	745.9	100, 100
110	0	0	0	0					100-110	0	745.9	100, 100
120	0	0	0	0					110-120	0	745.9	100, 100
130	0	0	0	0					120-130	0	745.9	100, 100
140	0	0	0	0					130-140	0	745.9	100, 100
150	0	0	0	0					140-150	0	745.9	100, 100
160	0	0	0	0					150-160	0	745.9	100, 100
170	0	0	0	0					160-170	0	745.9	100, 100
180	0	0	0	0					170-180	0	745.9	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

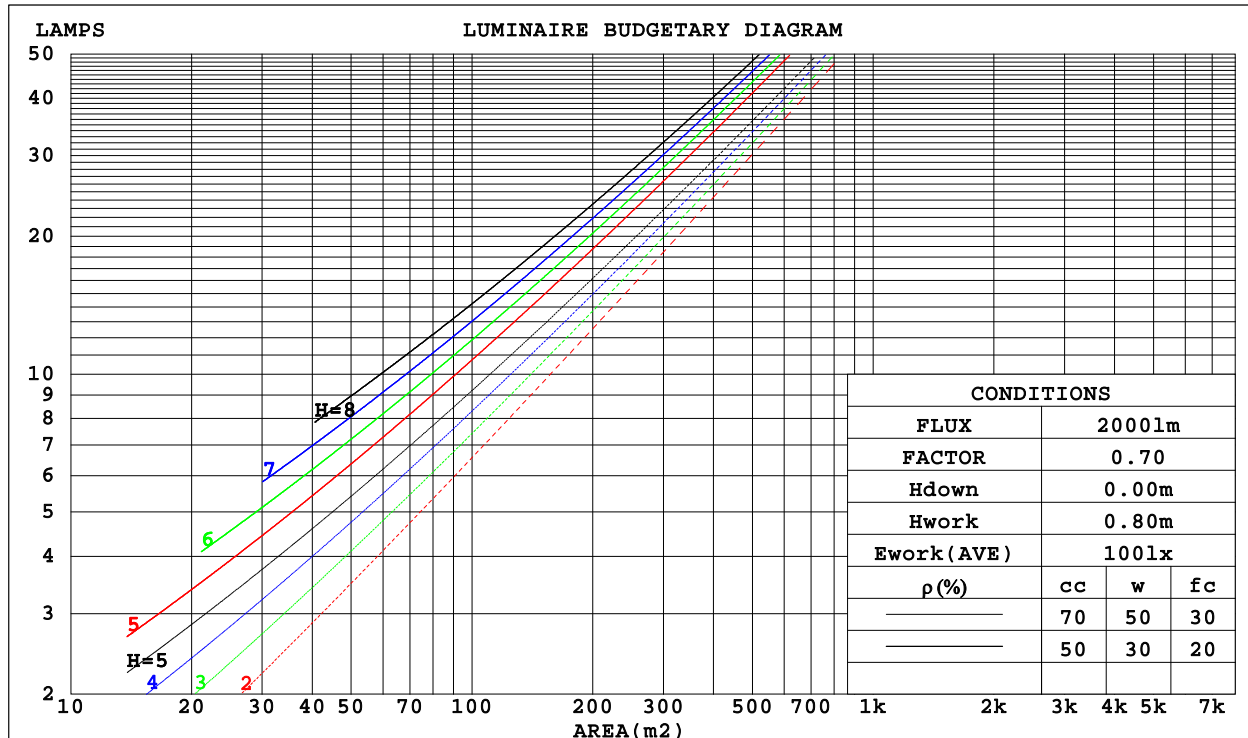
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2016-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.600m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)PO170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{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	1.07	1.04	1.01	1.05	1.02	.99	1.01	.98	.96	.97	.95	.93	.93	.92	.90	.88
2.0	.96	.91	.86	.95	.89	.85	.91	.87	.83	.88	.84	.81	.85	.82	.80	.78
3.0	.87	.80	.75	.86	.79	.74	.83	.77	.73	.80	.76	.72	.78	.74	.71	.69
4.0	.79	.72	.66	.78	.71	.66	.76	.70	.65	.73	.68	.64	.71	.67	.63	.61
5.0	.72	.65	.59	.71	.64	.59	.69	.63	.58	.68	.62	.58	.66	.61	.57	.55
6.0	.67	.59	.53	.66	.58	.53	.64	.58	.53	.62	.57	.52	.61	.56	.52	.50
7.0	.61	.54	.49	.61	.54	.48	.59	.53	.48	.58	.52	.48	.57	.52	.48	.46
8.0	.57	.50	.45	.56	.49	.44	.55	.49	.44	.54	.48	.44	.53	.48	.44	.42
9.0	.53	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.41	.50	.44	.40	.39
10.0	.50	.43	.38	.49	.42	.38	.48	.42	.38	.47	.42	.38	.47	.41	.38	.36



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2016-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.600m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)P0170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	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	.246	.140	.044	.239	.136	.043	.226	.130	.041	.214	.124	.040	.203	.118	.038	
2.0	.235	.129	.040	.229	.126	.039	.218	.121	.038	.208	.116	.036	.198	.112	.035	
3.0	.221	.117	.035	.215	.115	.035	.206	.111	.034	.197	.108	.033	.188	.104	.032	
4.0	.206	.107	.032	.202	.106	.031	.193	.102	.031	.185	.099	.030	.178	.097	.029	
5.0	.193	.098	.029	.189	.097	.028	.182	.095	.028	.175	.092	.027	.168	.090	.027	
6.0	.181	.091	.026	.178	.090	.026	.171	.088	.025	.165	.086	.025	.159	.084	.025	
7.0	.170	.084	.024	.167	.083	.024	.161	.082	.023	.156	.080	.023	.150	.078	.023	
8.0	.161	.078	.022	.158	.078	.022	.153	.076	.022	.148	.075	.022	.143	.073	.021	
9.0	.152	.073	.021	.149	.073	.020	.145	.071	.020	.140	.070	.020	.136	.069	.020	
10.0	.144	.069	.019	.142	.068	.019	.137	.067	.019	.133	.066	.019	.129	.065	.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	.139	.151	.134	.120	.103	.093	.083	.059	.054	.048	.019	.017	.016	
2.0	.165	.132	.105	.141	.114	.091	.097	.079	.063	.056	.046	.037	.018	.015	.012	
3.0	.155	.114	.081	.133	.098	.070	.091	.068	.049	.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	.138	.089	.053	.119	.077	.046	.082	.054	.032	.047	.032	.019	.015	.010	.006	
6.0	.131	.080	.044	.113	.070	.038	.078	.049	.027	.045	.029	.016	.015	.009	.005	
7.0	.125	.073	.037	.107	.063	.032	.074	.044	.023	.043	.026	.014	.014	.009	.005	
8.0	.119	.067	.032	.102	.058	.028	.071	.041	.020	.041	.024	.012	.013	.008	.004	
9.0	.113	.062	.028	.097	.054	.024	.067	.038	.017	.039	.022	.010	.013	.007	.003	
10.0	.108	.058	.025	.093	.050	.021	.065	.035	.015	.038	.021	.009	.012	.007	.003	

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity:65.0%
Test Distance:6.600m [K=1.0000]
Remarks:

Uncorrected UGR Table

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm											
NAME: QS-0072(160221)P0170417					TYPE:			WEIGHT:			
DIM.:					SPEC.:			SERIAL No.:			
MFR.: EVERFINE					SUR.:			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	2H	17.2	18.5	17.5	18.7	18.8	17.1	18.3	17.3	18.5	18.7
	3H	18.2	19.4	18.5	19.6	19.8	18.2	19.3	18.5	19.6	19.8
	4H	18.7	19.8	19.0	20.0	20.3	18.7	19.8	19.0	20.0	20.3
	6H	19.0	20.0	19.3	20.3	20.5	19.1	20.1	19.4	20.4	20.6
	8H	19.1	20.1	19.4	20.3	20.6	19.2	20.2	19.5	20.4	20.7
	12H	19.0	20.0	19.4	20.3	20.6	19.2	20.2	19.6	20.5	20.8
4H	2H	17.6	18.7	17.9	18.9	19.2	17.5	18.6	17.8	18.8	19.1
	3H	18.8	19.8	19.2	20.1	20.4	18.8	19.8	19.1	20.1	20.3
	4H	19.4	20.3	19.8	20.6	20.9	19.4	20.3	19.8	20.6	20.9
	6H	19.8	20.6	20.2	21.0	21.3	19.9	20.7	20.3	21.1	21.4
	8H	20.0	20.7	20.4	21.0	21.4	20.1	20.8	20.5	21.2	21.6
	12H	20.0	20.6	20.4	21.0	21.4	20.2	20.9	20.6	21.2	21.6
8H	4H	19.6	20.3	20.0	20.7	21.1	19.7	20.4	20.1	20.7	21.1
	6H	20.2	20.8	20.6	21.2	21.6	20.3	20.9	20.7	21.3	21.7
	8H	20.4	20.9	20.8	21.3	21.7	20.5	21.1	21.0	21.5	21.9
	12H	20.4	20.8	20.9	21.3	21.8	20.7	21.1	21.1	21.5	22.0
12H	4H	19.6	20.3	20.1	20.7	21.1	19.7	20.3	20.1	20.7	21.1
	6H	20.2	20.7	20.7	21.2	21.6	20.3	20.9	20.8	21.3	21.7
	8H	20.4	20.9	20.9	21.3	21.8	20.6	21.0	21.1	21.5	22.0
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4					
1.5H	+ 0.3 / - 0.3					+ 0.3 / - 0.3					
2.0H	+ 0.6 / - 0.5					+ 0.5 / - 0.4					

CIE Pub.117 Corrected 745.9 lm Total Lamp Luminous Flux.(8log(F/F0) = -1.0)

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity:65.0%
Test Distance:6.600m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)PO170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

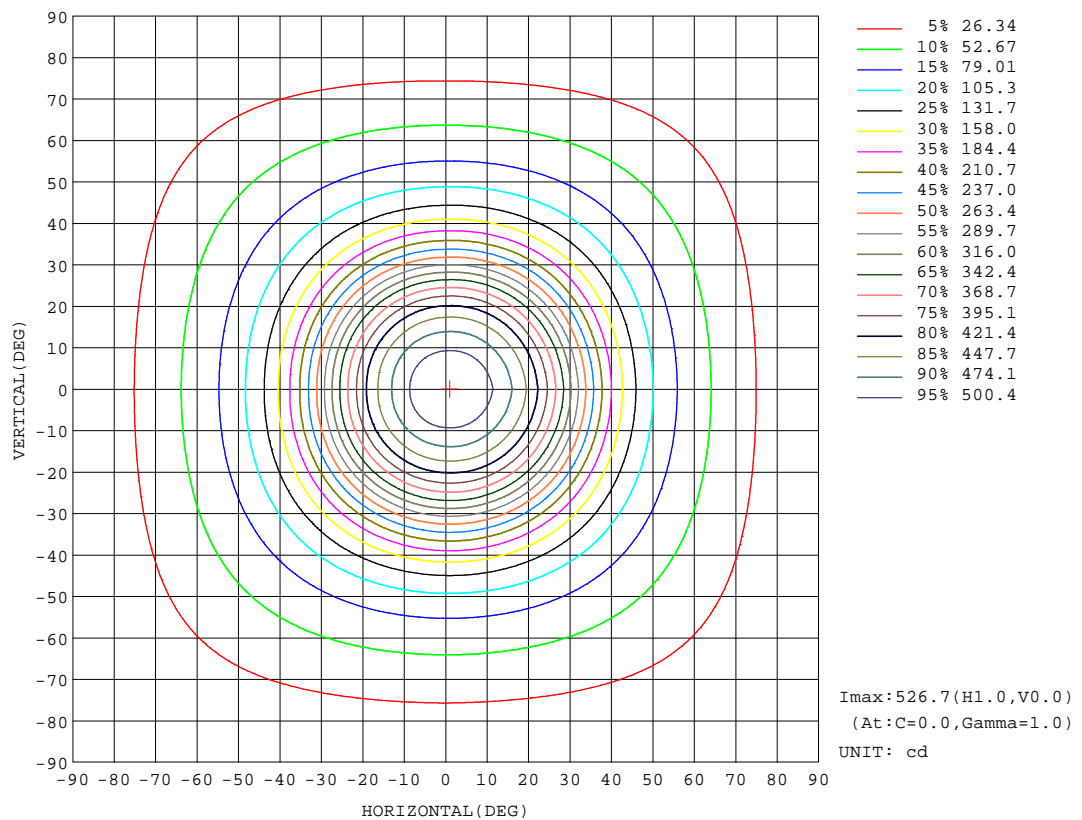
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	70	61	55	70	61	55	69	60	55	50
0.80	79	70	64	79	70	64	77	69	64	58
1.00	86	78	72	85	77	72	83	78	71	65
1.25	92	84	79	91	83	78	88	82	77	71
1.50	96	89	83	95	88	83	92	86	82	76
2.00	101	95	90	100	94	89	96	91	87	81
2.50	104	98	94	102	97	93	99	94	91	84
3.00	107	101	97	105	100	96	101	97	94	86
4.00	110	105	102	108	104	101	104	100	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: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity:65.0%
Test Distance:6.600m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)P0170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:



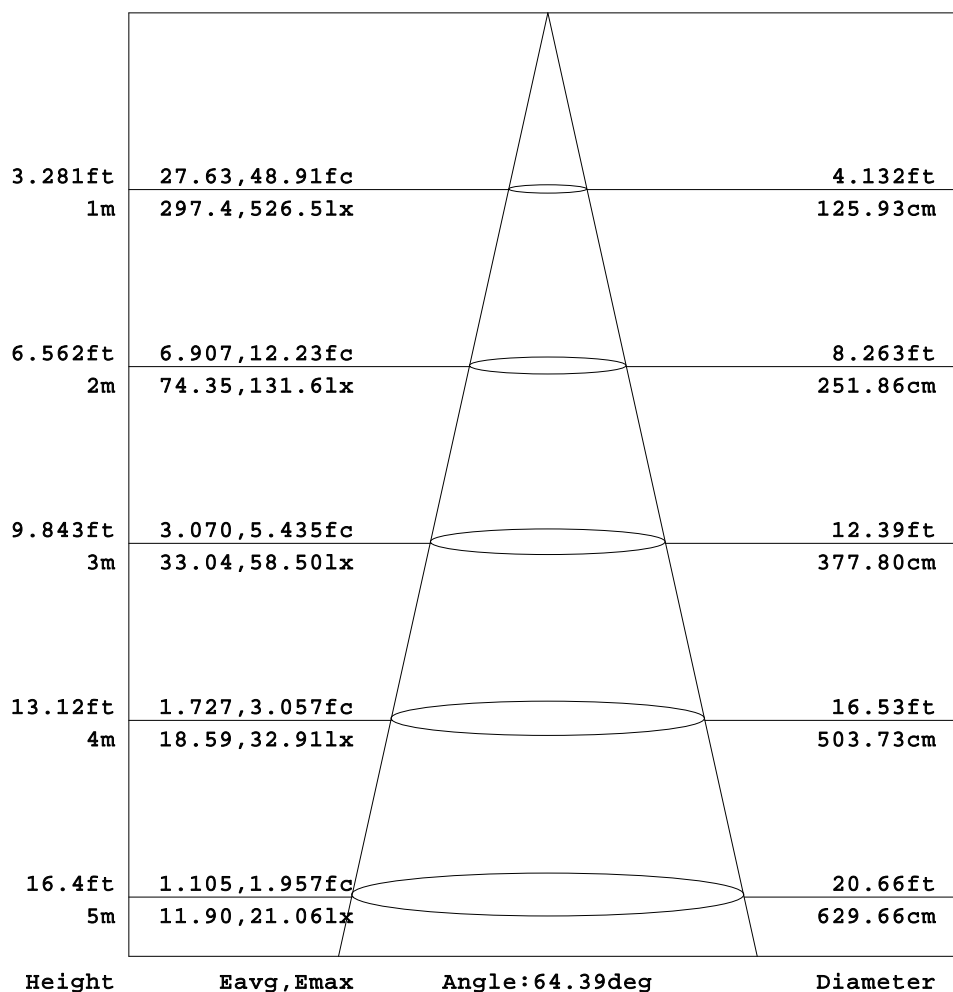
C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity:65.0%
Test Distance:6.600m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)PO170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

Flux out:394.0 lm



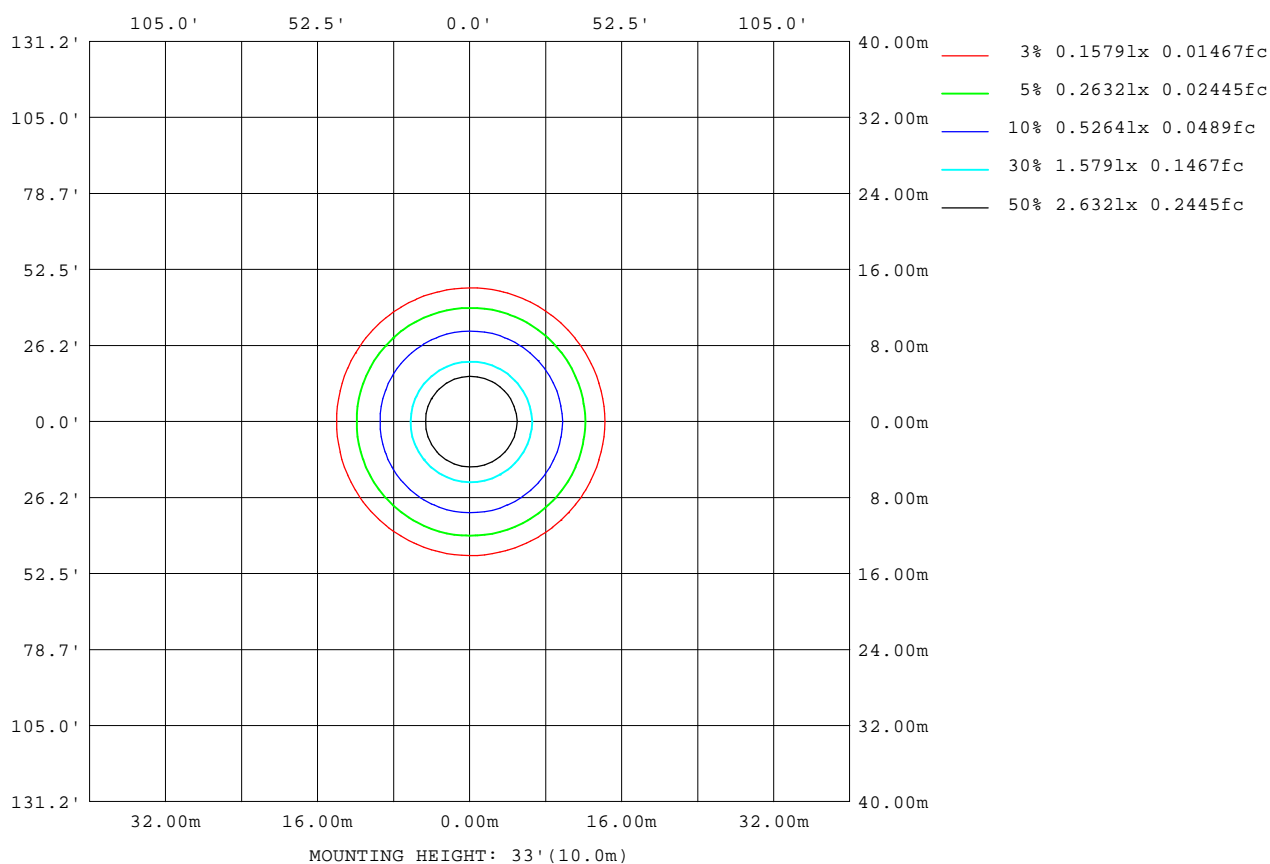
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity: 65.0%
Test Distance: 6.600m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

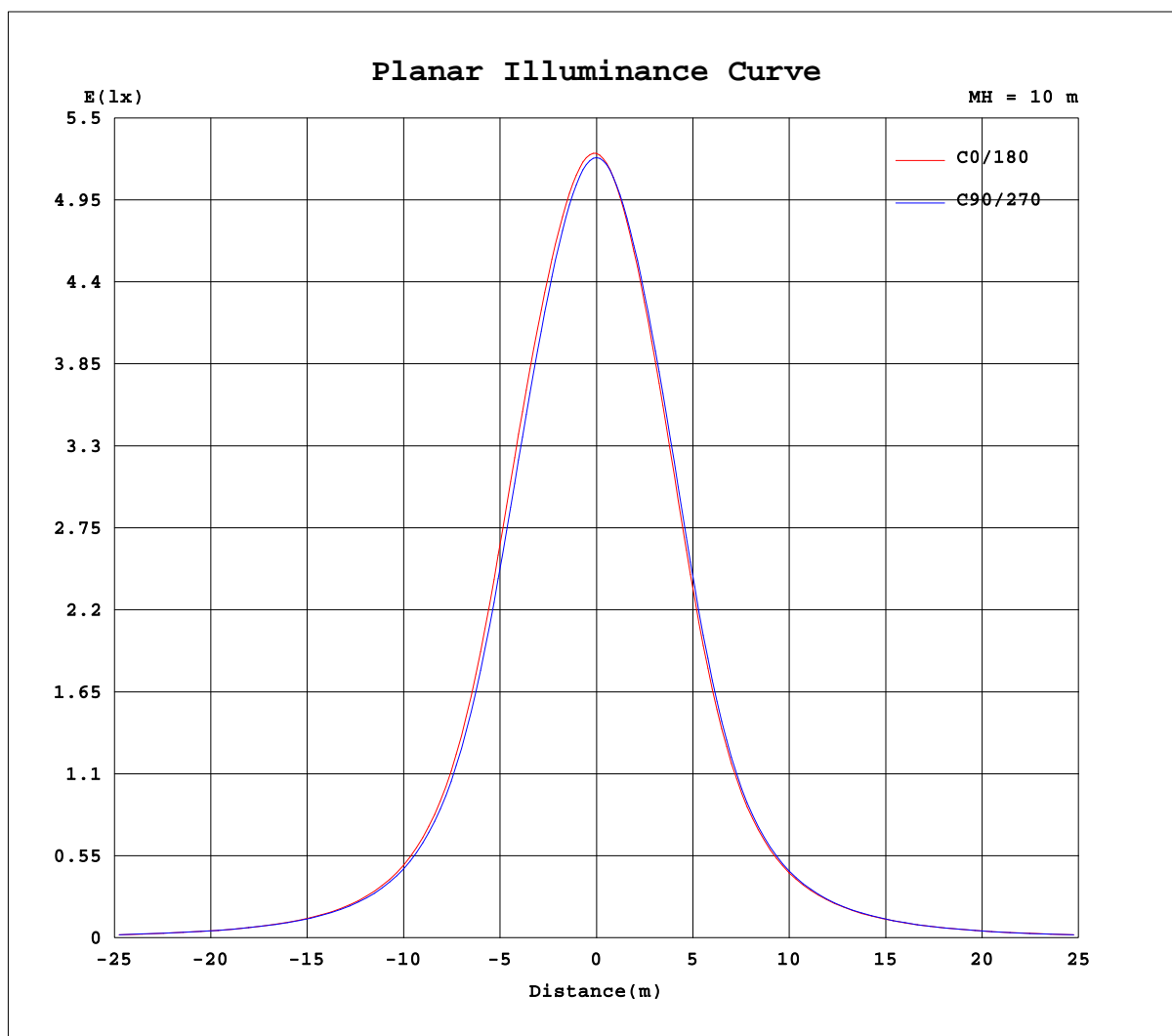
Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)PO170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:DAMIN
Test Date:2016-04-25

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity:65.0%
Test Distance:6.600m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: DAMIN
Test Date: 2016-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
Humidity: 65.0%
Test Distance: 6.600m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.7V I:0.0462A P:10.24W PF:0.9606 Lamp Flux:745.919x1 lm		
NAME: QS-0072(160221)P0170417	TYPE:	WEIGHT:
DIM.:	SPEC.:	SERIAL No.:
MFR.: EVERFINE	SUR.:	PROTECTION ANGLE:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	90	180	270															
0	526	523	526	523															
5	523	517	516	516															
10	507	497	493	497															
15	481	466	459	466															
20	443	423	412	422															
25	389	367	350	361															
30	320	299	279	289															
35	247	231	213	221															
40	185	174	162	166															
45	139	132	124	127															
50	106	102	97.4	99.4															
55	82.4	80.1	78.0	79.0															
60	64.7	63.8	62.7	62.9															
65	50.2	50.5	49.8	49.1															
70	37.7	38.8	38.0	36.7															
75	26.2	27.9	26.7	24.7															
80	14.9	17.1	15.5	12.6															
85	0.05	6.19	0.00	0.88															
90	0.00	0.00	0.00	0.00															
95	0.00	0.00	0.00	0.00															
100	0.00	0.00	0.00	0.00															
105	0.00	0.00	0.00	0.00															
110	0.00	0.00	0.00	0.00															
115	0.00	0.00	0.00	0.00															
120	0.00	0.00	0.00	0.00															
125	0.00	0.00	0.00	0.00															
130	0.00	0.00	0.00	0.00															
135	0.00	0.00	0.00	0.00															
140	0.00	0.00	0.00	0.00															
145	0.00	0.00	0.00	0.00															
150	0.00	0.00	0.00	0.00															
155	0.00	0.00	0.00	0.00															
160	0.00	0.00	0.00	0.00															
165	0.00	0.00	0.00	0.00															
170	0.00	0.00	0.00	0.00															
175	0.00	0.00	0.00	0.00															
180	0.00	0.00	0.00	0.00															

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: DAMIN
 Test Date: 2016-04-25

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.274
 Humidity: 65.0%
 Test Distance: 6.600m [K=1.0000]
 Remarks: