



# LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING  
MEMBER  
of the  
IESNA

905 Harrison Street · Allentown, PA 18103 · 610-770-1044 · Fax 610-770-8912 · www.LuminaireTesting.com

LTL NUMBER: 19578

DATE: 06-23-2010

PREPARED FOR: SUNOVIA ENERGY TECHNOLOGIES, INC.

CATALOG NUMBER: DOCK LIGHT WITH 12 DEGREE OPTICS (RIBBED GLASS)

LUMINAIRE: CAST ALUMINUM AND FORMED STEEL HOUSING, CLEAR RIBBED GLASS ENCLOSURE.

LAMP: 12 WHITE LEDS WITH CLEAR PLASTIC OPTICS.

LED POWER SUPPLY: EVOLUCIA LP1025-24-C1040

MOUNTING: SURFACE

ELECTRICAL VALUES: 120.0VAC, 0.1909A, 22.65W, PF=0.988

NOTE: THIS TEST WAS PERFORMED USING THE CALIBRATED  
PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY.\*

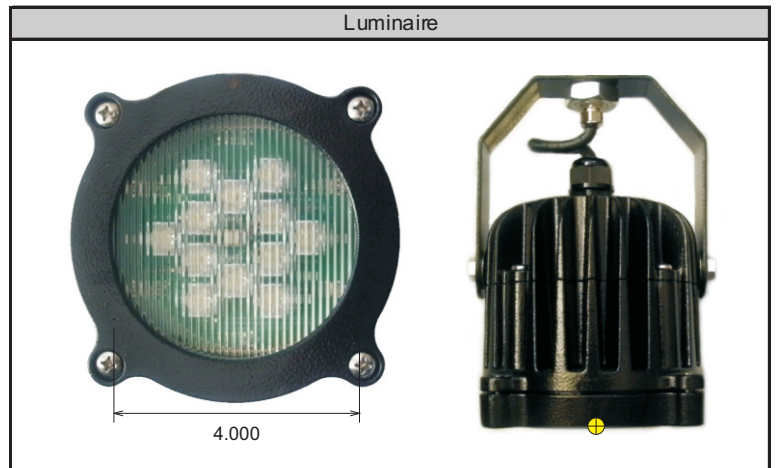
### Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	
5	2134	2220	2412	2580	2653	2580	2412	2220	2134	2220	2412	2580	2653	2580	2412	2220	185.8
15	313	315	396	1258	2190	1258	396	315	313	315	396	1258	2190	1258	396	315	237.3
25	172	188	219	582	2715	582	219	188	172	188	219	582	2715	582	219	188	274.3
35	104	117	144	180	1307	180	144	117	104	117	144	180	1307	180	144	117	181.1
45	85	75	75	79	288	79	75	75	85	75	75	79	288	79	75	75	83.0
55	53	33	32	23	40	23	32	33	53	33	32	23	40	23	32	33	32.3
65	20	18	9	13	26	13	9	18	20	18	9	13	26	13	9	18	16.2
75	4	4	4	7	18	7	4	4	4	4	4	7	18	7	4	4	7.3
85	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0.9
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	697.4	N/A	68.5%
0-40	878.5	N/A	86.3%
0-60	993.9	N/A	97.6%
0-90	1018.3	N/A	100.0%
90-180	0.0	N/A	0.0%
0-180	1018.3	N/A	100.0%

Total lumen Output: 1018.3 Lumens  
 Luminaire efficacy: 45.0 Lumens per Watt  
 CIE Type: Direct  
 Spacing Criterion: 0 deg: 0.23    90 deg: 1.10  
                           180 deg: 0.23    270 deg: 1.10



Approved By: MG

\*DATA WAS ACQUIRED USING THE CALIBRATED PHOTODETECTOR METHOD OF ABSOLUTE PHOTOMETRY. A UDT MODEL #211 PHOTODETECTOR AND UDT MODEL #S370 OPTOMETER COMBINATION WERE USED AS A STANDARD. A SPECTRAL MISMATCH CORRECTION FACTOR WAS EMPLOYED BASED ON THE SPECTRAL RESPONSIVITY OF THE PHOTODETECTOR AND THE SPECTRAL POWER DISTRIBUTION OF THE TEST SUBJECT.

**TESTING WAS PERFORMED IN ACCORDANCE WITH IES LM-79-08.**

TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IES LM-41-98 AND LM-46-04.



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Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041	3041
5	2134	2220	2412	2580	2653	2580	2412	2220	2134	2220	2412	2580	2653	2580	2412	2220
10	519	630	1079	1724	2009	1724	1079	630	519	630	1079	1724	2009	1724	1079	630
15	313	315	396	1258	2190	1258	396	315	313	315	396	1258	2190	1258	396	315
20	234	241	273	988	2778	988	273	241	234	241	273	988	2778	988	273	241
25	172	188	219	582	2715	582	219	188	172	188	219	582	2715	582	219	188
30	127	146	177	305	2099	305	177	146	127	146	177	305	2099	305	177	146
35	104	117	144	180	1307	180	144	117	104	117	144	180	1307	180	144	117
40	94	96	108	124	685	124	108	96	94	96	108	124	685	124	108	96
45	85	75	75	79	288	79	75	75	85	75	75	79	288	79	75	75
50	69	55	51	44	82	44	51	55	69	55	51	44	82	44	51	55
55	53	33	32	23	40	23	32	33	53	33	32	23	40	23	32	33
60	36	25	18	18	68	18	18	25	36	25	18	18	68	18	18	25
65	20	18	9	13	26	13	9	18	20	18	9	13	26	13	9	18
70	9	10	7	5	30	5	7	10	9	10	7	5	30	5	7	10
75	4	4	4	7	18	7	4	4	4	4	4	7	18	7	4	4
80	1	1	2	2	15	2	2	1	1	1	2	2	15	2	2	1
85	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	64.9	45-50	31.2	90-95	0.0	135-140	0.0
5-10	120.9	50-55	18.3	95-100	0.0	140-145	0.0
10-15	108.5	55-60	14.0	100-105	0.0	145-150	0.0
15-20	128.8	60-65	10.5	105-110	0.0	150-155	0.0
20-25	143.1	65-70	5.7	110-115	0.0	155-160	0.0
25-30	131.2	70-75	5.1	115-120	0.0	160-165	0.0
30-35	104.8	75-80	2.2	120-125	0.0	165-170	0.0
35-40	76.3	80-85	0.9	125-130	0.0	170-175	0.0
40-45	51.8	85-90	0.0	130-135	0.0	175-180	0.0



Utilization of Lumens - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **											
0	1242	1242	1242	1242	1212	1212	1212	1212	1184	1184	1184	1184
1	1180	1148	1119	1093	1154	1125	1099	1076	1129	1103	1080	1058
2	1119	1063	1016	977.9	1095	1044	1002	966.7	1073	1027	988.4	955.9
3	1061	987.5	931.4	887.3	1039	972.7	921.1	879.9	1019	958.4	911	872.8
4	1007	921.3	859.9	813.6	987	909.2	852.2	808.7	968.5	897.5	844.6	803.8
5	955.9	862.7	798.8	752.3	938.2	852.7	792.9	748.8	921.6	843.1	787.2	745.4
6	908.9	810.7	746	700.3	893	802.3	741.5	697.8	877.9	794.2	737	695.4
7	865.5	764.3	700	655.5	851.1	757.2	696.4	653.7	837.5	750.4	692.8	651.9
8	825.4	722.7	659.4	616.5	812.4	716.7	656.5	615.1	800.1	710.9	653.6	613.8
9	788.5	685.3	623.4	582.1	776.7	680.1	621	581.1	765.6	675.2	618.7	580.1
10	754.5	651.6	591.3	551.6	743.8	647.1	589.3	550.8	733.7	642.8	587.4	550

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **										
0	1131	1131	1131	1131	1083	1083	1083	1039	1039	1039	1018
1	1082	1062	1043	1026	1024	1009	995.2	988.7	977.2	966.5	948.2
2	1031	993.7	962.2	934.9	963.3	937.5	914.9	935.1	914.3	895.8	878.8
3	981.2	931.6	891.7	858.8	906.8	873.4	845.3	883.8	856.1	832.3	816.1
4	934.6	875.5	830.1	794.2	855.1	816.3	784.9	836.1	803.1	775.9	760.3
5	891	824.8	776.1	738.7	807.8	765.4	732.2	791.9	755.3	725.8	710.7
6	850.3	778.9	728.3	690.6	764.6	720	685.9	751.2	712	681.3	666.6
7	812.5	737.4	685.9	648.4	725.2	679.3	644.9	713.8	672.8	641.5	627.3
8	777.5	699.8	648.1	611.2	689.4	642.7	608.6	679.6	637.5	606	592.2
9	745	665.6	614.1	578.1	656.6	609.7	576.1	648.1	605.4	574.1	560.8
10	715	634.6	583.6	548.5	626.7	580	547	619.4	576.4	545.4	532.5

Average Luminance Table (cd/m<sup>2</sup>)

	0	45	90
0	375132	375132	375132
45	14805	13018	50256
55	11411	6939	8616
65	5713	2656	7498
75	1676	1931	8527
85	0	0	1515

THIS TEST WAS CONDUCTED USING PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IES PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25°C ±1°C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.

