



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: 18032 DATE: 03-10-2010
 PREPARED FOR: SPECIALTY LIGHTING
 CATALOG NUMBER: 804/805
 LUMINAIRE: FORMED WHITE ENAMEL ALUMINUM AND STEEL HOUSING, CLEAR RIBBED GLASS ENCLOSURE.
 LAMP: SIX VBU 20 WATT MR11 HALOGEN LAMPS RATED AT 380 LUMENS EACH.
 LAMP CATALOG NUMBER: SYLVANIA 20W MR11 SP10 FTB
 MOUNTING: RECESSED

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	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	
5	6267	5941	5198	4621	4432	4621	5198	5941	6267	5941	5198	4621	4432	4621	5198	5941	441.0
15	4422	2848	1524	886	736	886	1524	2848	4422	2848	1524	886	736	886	1524	2848	545.8
25	1389	846	391	269	218	269	391	846	1389	846	391	269	218	269	391	846	274.6
35	440	333	149	93	87	93	149	333	440	333	149	93	87	93	149	333	135.5
45	222	183	72	61	61	61	72	183	222	183	72	61	61	61	72	183	89.5
55	131	70	49	46	43	46	49	70	131	70	49	46	43	46	49	70	57.8
65	89	28	28	20	17	20	28	28	89	28	28	20	17	20	28	28	32.5
75	51	16	6	7	7	7	6	16	51	16	6	7	7	7	6	16	15.4
85	10	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	2.6
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	0.0

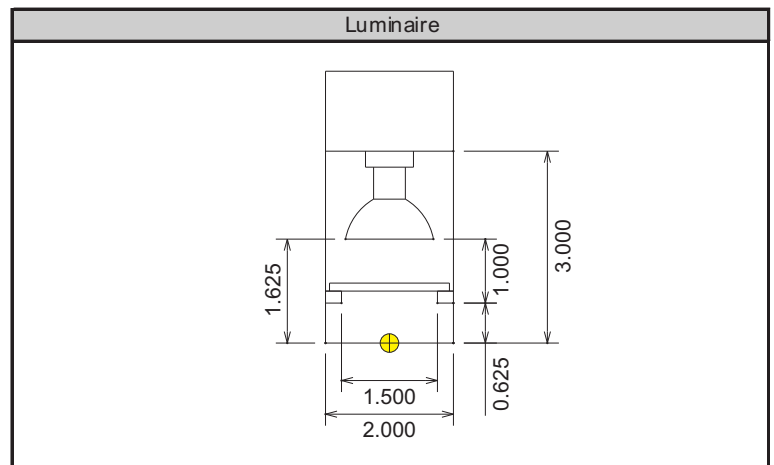
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	1261.3	55.3%	79.1%
0-40	1396.8	61.3%	87.6%
0-60	1544.2	67.7%	96.8%
0-90	1594.7	69.9%	100.0%
90-180	0.0	0.0%	0.0%
0-180	1594.7	69.9%	100.0%

Total luminaire efficiency: 69.9%

CIE Type: Direct

Spacing Criterion: 0 deg: 0.61 90 deg: 0.24
 180 deg: 0.61 270 deg: 0.24



Approved By: MG

THIS REPORT BASED ON LM-46 AND OTHER PERTINENT IESNA PROCEDURES.



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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	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589	6589
5	6267	5941	5198	4621	4432	4621	5198	5941	6267	5941	5198	4621	4432	4621	5198	5941
10	5555	4470	3044	2235	2004	2235	3044	4470	5555	4470	3044	2235	2004	2235	3044	4470
15	4422	2848	1524	886	736	886	1524	2848	4422	2848	1524	886	736	886	1524	2848
20	2780	1570	710	415	369	415	710	1570	2780	1570	710	415	369	415	710	1570
25	1389	846	391	269	218	269	391	846	1389	846	391	269	218	269	391	846
30	705	479	288	126	113	126	288	479	705	479	288	126	113	126	288	479
35	440	333	149	93	87	93	149	333	440	333	149	93	87	93	149	333
40	300	259	98	74	70	74	98	259	300	259	98	74	70	74	98	259
45	222	183	72	61	61	61	72	183	222	183	72	61	61	61	72	183
50	172	123	59	55	55	55	59	123	172	123	59	55	55	55	59	123
55	131	70	49	46	43	46	49	70	131	70	49	46	43	46	49	70
60	118	41	39	33	30	33	39	41	118	41	39	33	30	33	39	41
65	89	28	28	20	17	20	28	28	89	28	28	20	17	20	28	28
70	66	22	16	10	8	10	16	22	66	22	16	10	8	10	16	22
75	51	16	6	7	7	7	6	16	51	16	6	7	7	7	6	16
80	35	6	4	4	4	4	4	6	35	6	4	4	4	4	4	6
85	10	0	0	0	0	0	0	0	10	0	0	0	0	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	141.1	45-50	40.6	90-95	0.0	135-140	0.0
5-10	299.9	50-55	32.4	95-100	0.0	140-145	0.0
10-15	306.5	55-60	25.5	100-105	0.0	145-150	0.0
15-20	239.3	60-65	19.1	105-110	0.0	150-155	0.0
20-25	165.8	65-70	13.4	110-115	0.0	155-160	0.0
25-30	108.7	70-75	9.2	115-120	0.0	160-165	0.0
30-35	75.9	75-80	6.2	120-125	0.0	165-170	0.0
35-40	59.6	80-85	2.5	125-130	0.0	170-175	0.0
40-45	48.9	85-90	0.2	130-135	0.0	175-180	0.0



Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.853	0.853	0.853	0.853	0.833	0.833	0.833	0.833	0.813	0.813	0.813	0.813
1	0.814	0.794	0.775	0.759	0.796	0.778	0.761	0.746	0.779	0.763	0.748	0.735
2	0.777	0.741	0.712	0.688	0.761	0.729	0.702	0.68	0.745	0.717	0.693	0.673
3	0.742	0.696	0.662	0.634	0.728	0.686	0.655	0.629	0.714	0.677	0.648	0.624
4	0.71	0.658	0.62	0.592	0.697	0.65	0.615	0.588	0.685	0.642	0.61	0.585
5	0.681	0.624	0.585	0.557	0.669	0.617	0.581	0.554	0.658	0.611	0.577	0.552
6	0.654	0.594	0.555	0.527	0.643	0.589	0.552	0.526	0.634	0.583	0.549	0.524
7	0.629	0.568	0.529	0.503	0.62	0.563	0.527	0.501	0.611	0.559	0.524	0.5
8	0.606	0.544	0.507	0.481	0.598	0.541	0.505	0.48	0.59	0.537	0.503	0.479
9	0.585	0.523	0.486	0.462	0.577	0.52	0.485	0.461	0.571	0.517	0.483	0.46
10	0.565	0.504	0.468	0.445	0.559	0.501	0.467	0.444	0.553	0.499	0.466	0.444

Ceiling Cavity Reflectance	50				30			10			0
	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.777	0.777	0.777	0.777	0.744	0.744	0.744	0.714	0.714	0.714	0.699
1	0.747	0.734	0.723	0.712	0.709	0.699	0.691	0.685	0.678	0.671	0.659
2	0.717	0.695	0.675	0.658	0.674	0.658	0.644	0.655	0.642	0.631	0.62
3	0.689	0.659	0.634	0.614	0.642	0.622	0.605	0.627	0.61	0.595	0.585
4	0.663	0.627	0.6	0.578	0.614	0.59	0.571	0.601	0.581	0.565	0.555
5	0.639	0.599	0.569	0.547	0.588	0.562	0.542	0.577	0.555	0.538	0.528
6	0.616	0.573	0.543	0.521	0.564	0.537	0.517	0.555	0.532	0.514	0.505
7	0.595	0.551	0.52	0.497	0.543	0.515	0.495	0.535	0.511	0.492	0.484
8	0.576	0.53	0.499	0.477	0.523	0.495	0.475	0.517	0.492	0.473	0.465
9	0.558	0.511	0.48	0.459	0.505	0.477	0.457	0.5	0.474	0.456	0.448
10	0.541	0.493	0.463	0.442	0.488	0.461	0.441	0.484	0.458	0.44	0.432

Average Luminance Table (cd/m²)

	0	45	90
0	212761	212761	212761
45	10127	3310	2764
55	7385	2758	2439
65	6816	2119	1302
75	6330	784	888
85	3631	81	60

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA 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) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) 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.

