



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: 18031

DATE: 03-16-2010

PREPARED FOR: SPECIALTY LIGHTING

CATALOG NUMBER: 800/801

LUMINAIRE: FORMED WHITE ENAMEL ALUMINUM 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	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	
5	5999	5709	5104	4652	4517	4652	5104	5709	5999	5709	5104	4652	4517	4652	5104	5709	421.2
15	3591	2367	1315	820	705	820	1315	2367	3591	2367	1315	820	705	820	1315	2367	471.6
25	1807	874	310	164	149	164	310	874	1807	874	310	164	149	164	310	874	273.6
35	701	339	117	102	98	102	117	339	701	339	117	102	98	102	117	339	152.6
45	272	142	84	80	82	80	84	142	272	142	84	80	82	80	84	142	94.1
55	118	55	56	57	58	57	56	55	118	55	56	57	58	57	56	55	57.9
65	88	31	28	34	32	34	28	31	88	31	28	34	32	34	28	31	37.8
75	64	19	13	16	15	16	13	19	64	19	13	16	15	16	13	19	22.5
85	13	2	1	1	0	1	1	2	13	2	1	1	0	1	1	2	4.4
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	

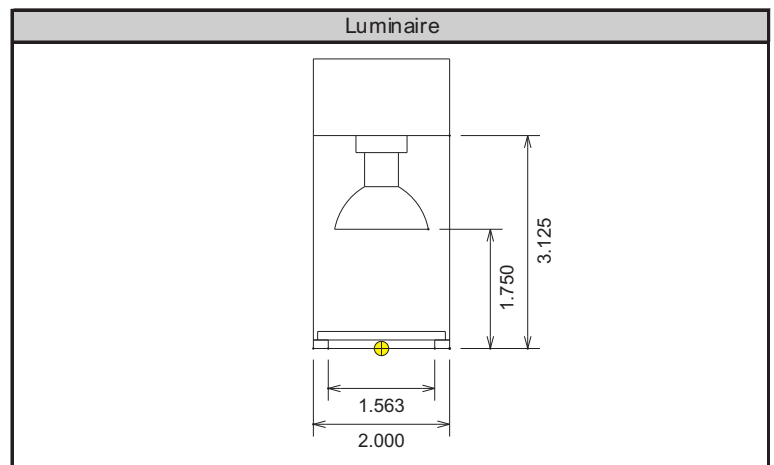
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	1166.3	51.2%	76.0%
0-40	1318.8	57.8%	85.9%
0-60	1470.8	64.5%	95.8%
0-90	1535.6	67.4%	100.0%
90-180	0.0	0.0%	0.0%
0-180	1535.6	67.4%	100.0%

Total luminaire efficiency: 67.4%

CIE Type: Direct

Spacing Criterion: 0 deg: 0.50 90 deg: 0.23
180 deg: 0.50 270 deg: 0.23



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	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867	6867
5	5999	5709	5104	4652	4517	4652	5104	5709	5999	5709	5104	4652	4517	4652	5104	5709
10	4625	3784	2722	2168	2008	2168	2722	3784	4625	3784	2722	2168	2008	2168	2722	3784
15	3591	2367	1315	820	705	820	1315	2367	3591	2367	1315	820	705	820	1315	2367
20	2708	1443	606	334	274	334	606	1443	2708	1443	606	334	274	334	606	1443
25	1807	874	310	164	149	164	310	874	1807	874	310	164	149	164	310	874
30	1119	542	167	121	116	121	167	542	1119	542	167	121	116	121	167	542
35	701	339	117	102	98	102	117	339	701	339	117	102	98	102	117	339
40	435	221	97	89	87	89	97	221	435	221	97	89	87	89	97	221
45	272	142	84	80	82	80	84	142	272	142	84	80	82	80	84	142
50	178	86	70	70	71	70	70	86	178	86	70	70	71	70	70	86
55	118	55	56	57	58	57	56	55	118	55	56	57	58	57	56	55
60	87	37	41	45	44	45	41	37	87	37	41	45	44	45	41	37
65	88	31	28	34	32	34	28	31	88	31	28	34	32	34	28	31
70	79	26	18	24	23	24	18	26	79	26	18	24	23	24	18	26
75	64	19	13	16	15	16	13	19	64	19	13	16	15	16	13	19
80	39	10	7	8	8	8	7	10	39	10	7	8	8	8	7	10
85	13	2	1	1	0	1	1	2	13	2	1	1	0	1	1	2
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	142.8	45-50	41.5	90-95	0.0	135-140	0.0
5-10	278.3	50-55	32.8	95-100	0.0	140-145	0.0
10-15	263.8	55-60	25.1	100-105	0.0	145-150	0.0
15-20	207.7	60-65	20.5	105-110	0.0	150-155	0.0
20-25	157.5	65-70	17.3	110-115	0.0	155-160	0.0
25-30	116.1	70-75	13.4	115-120	0.0	160-165	0.0
30-35	86.1	75-80	9.1	120-125	0.0	165-170	0.0
35-40	66.4	80-85	4.0	125-130	0.0	170-175	0.0
40-45	52.6	85-90	0.4	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	0.821	0.821	0.821	0.821	0.802	0.802	0.802	0.802	0.783	0.783	0.783	0.783
1	0.782	0.761	0.743	0.726	0.765	0.746	0.73	0.715	0.748	0.732	0.717	0.703
2	0.745	0.709	0.68	0.656	0.729	0.697	0.67	0.648	0.714	0.685	0.661	0.641
3	0.71	0.664	0.629	0.602	0.696	0.654	0.622	0.597	0.683	0.645	0.616	0.592
4	0.678	0.626	0.588	0.56	0.665	0.618	0.583	0.556	0.654	0.61	0.578	0.553
5	0.649	0.592	0.553	0.525	0.638	0.586	0.55	0.523	0.627	0.58	0.546	0.521
6	0.622	0.563	0.524	0.496	0.612	0.558	0.521	0.495	0.603	0.552	0.518	0.493
7	0.598	0.537	0.499	0.472	0.589	0.533	0.496	0.471	0.58	0.528	0.494	0.47
8	0.575	0.514	0.476	0.451	0.567	0.51	0.475	0.45	0.56	0.507	0.473	0.449
9	0.555	0.493	0.457	0.432	0.547	0.49	0.455	0.432	0.541	0.487	0.454	0.431
10	0.535	0.475	0.439	0.416	0.529	0.472	0.438	0.415	0.523	0.469	0.437	0.415

Ceiling Cavity Reflectance	50				30			10			0
	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.748	0.748	0.748	0.748	0.716	0.716	0.716	0.687	0.687	0.687	0.674
1	0.717	0.704	0.693	0.682	0.679	0.67	0.661	0.656	0.649	0.642	0.63
2	0.687	0.664	0.644	0.627	0.644	0.628	0.614	0.625	0.612	0.601	0.59
3	0.658	0.628	0.603	0.583	0.612	0.591	0.574	0.597	0.58	0.565	0.555
4	0.632	0.596	0.568	0.546	0.583	0.559	0.54	0.57	0.551	0.534	0.524
5	0.608	0.568	0.538	0.516	0.557	0.531	0.511	0.547	0.525	0.507	0.498
6	0.586	0.543	0.512	0.49	0.534	0.507	0.487	0.525	0.502	0.483	0.475
7	0.565	0.52	0.489	0.467	0.512	0.485	0.465	0.505	0.481	0.462	0.454
8	0.546	0.5	0.469	0.447	0.493	0.466	0.445	0.487	0.462	0.444	0.435
9	0.528	0.481	0.451	0.429	0.476	0.448	0.428	0.47	0.445	0.427	0.419
10	0.512	0.464	0.434	0.414	0.459	0.432	0.413	0.455	0.43	0.411	0.404

Average Luminance Table (cd/m²)

	0	45	90
0	295645	295645	295645
45	16564	5104	4965
55	8850	4187	4321
65	8992	2826	3297
75	10573	2107	2502
85	6574	504	223

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.

