



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: 17230 DATE: 11-12-2009
 PREPARED FOR: SPECIALTY LIGHTING
 CATALOG NUMBER: 1240-MR16 WITH 1240 TRIM
 LUMINAIRE: FORMED STEEL HOUSING, FROSTED LINEAR PRISMATIC GLASS LENS
 ABOVE CAST WHITE ENAMEL ALUMINUM TRIM.
 LAMP: ONE VBU 50 WATT MR16 HALOGEN REFLECTOR LAMP RATED AT 850 LUMENS.
 LAMP CATALOG NUMBER: PHILIPS 50MR16/FL35
 TRANSFORMER: ONE LIGHTTECH LET75
 MOUNTING: RECESSED
 ELECTRICAL VALUES: 120.VAC, 0.4544A, 54.13W

Candela Distribution

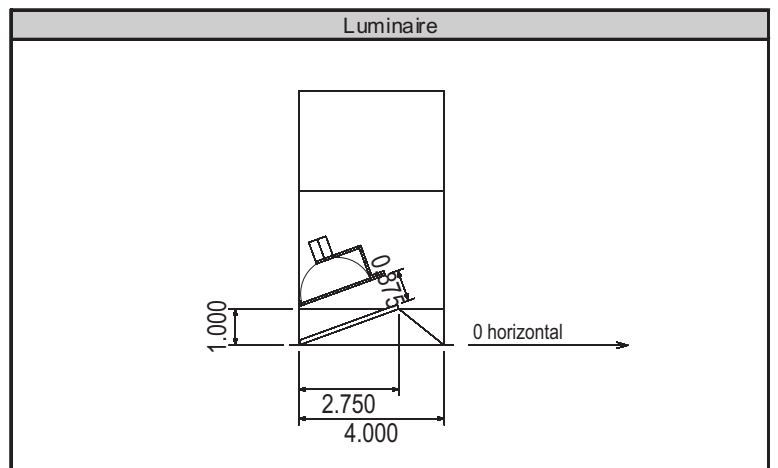
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	
5	444	441	411	372	331	295	269	252	245	252	269	295	331	372	411	441	32.1
15	584	573	472	357	262	200	160	139	129	139	160	200	262	357	472	573	87.9
25	535	522	387	260	176	128	101	87	79	87	101	128	176	260	387	522	112.5
35	344	342	244	161	113	88	74	66	59	66	74	88	113	161	244	342	100.8
45	177	182	136	97	76	65	57	52	47	52	57	65	76	97	136	182	75.8
55	91	101	82	64	55	48	42	36	33	36	42	48	55	64	82	101	55.4
65	54	60	52	43	36	32	25	19	17	19	25	32	36	43	52	60	37.4
75	23	28	24	15	13	11	6	4	4	4	6	11	13	15	24	28	15.6
85	1	2	2	1	1	1	1	1	1	1	1	1	1	1	2	2	1.8
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	232.6	27.4%	44.8%
0-40	333.3	39.2%	64.2%
0-60	464.5	54.6%	89.4%
0-90	519.3	61.1%	100.0%
90-180	0.0	0.0%	0.0%
0-180	519.3	61.1%	100.0%

Total luminaire efficiency: 61.1%

CIE Type: Direct
 Spacing Criterion: 0 deg: 1.45 90 deg: 0.77
 180 deg: 0.34 270 deg: 0.77



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	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342
5	444	441	411	372	331	295	269	252	245	252	269	295	331	372	411	441
10	535	523	458	377	302	244	205	184	176	184	205	244	302	377	458	523
15	584	573	472	357	262	200	160	139	129	139	160	200	262	357	472	573
20	584	571	445	314	219	160	126	108	98	108	126	160	219	314	445	571
25	535	522	387	260	176	128	101	87	79	87	101	128	176	260	387	522
30	449	440	315	207	141	105	85	75	67	75	85	105	141	207	315	440
35	344	342	244	161	113	88	74	66	59	66	74	88	113	161	244	342
40	248	251	181	124	91	75	65	59	53	59	65	75	91	124	181	251
45	177	182	136	97	76	65	57	52	47	52	57	65	76	97	136	182
50	127	140	108	78	64	57	50	45	41	45	50	57	64	78	108	140
55	91	101	82	64	55	48	42	36	33	36	42	48	55	64	82	101
60	69	77	65	53	47	40	34	28	25	28	34	40	47	53	65	77
65	54	60	52	43	36	32	25	19	17	19	25	32	36	43	52	60
70	38	45	40	30	25	21	16	9	7	9	16	21	25	30	40	45
75	23	28	24	15	13	11	6	4	4	4	6	11	13	15	24	28
80	8	11	8	5	4	3	3	3	2	3	3	3	4	5	8	11
85	1	2	2	1	1	1	1	1	1	1	1	1	1	1	2	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	8.1	45-50	35.0	90-95	0.0	135-140	0.0
5-10	24.0	50-55	30.1	95-100	0.0	140-145	0.0
10-15	38.4	55-60	25.3	100-105	0.0	145-150	0.0
15-20	49.5	60-65	21.1	105-110	0.0	150-155	0.0
20-25	55.8	65-70	16.3	110-115	0.0	155-160	0.0
25-30	56.8	70-75	10.6	115-120	0.0	160-165	0.0
30-35	53.4	75-80	5.0	120-125	0.0	165-170	0.0
35-40	47.3	80-85	1.6	125-130	0.0	170-175	0.0
40-45	40.8	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			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.745	0.745	0.745	0.745	0.727	0.727	0.727	0.727	0.71	0.71	0.71	0.71
1	0.696	0.67	0.647	0.627	0.679	0.656	0.635	0.617	0.663	0.642	0.624	0.607
2	0.646	0.601	0.564	0.533	0.63	0.589	0.555	0.527	0.615	0.578	0.547	0.521
3	0.599	0.541	0.496	0.461	0.584	0.531	0.49	0.457	0.571	0.522	0.484	0.453
4	0.557	0.49	0.442	0.405	0.543	0.482	0.437	0.402	0.531	0.474	0.432	0.4
5	0.519	0.446	0.397	0.36	0.507	0.44	0.393	0.358	0.495	0.433	0.389	0.357
6	0.485	0.409	0.359	0.324	0.473	0.403	0.356	0.322	0.463	0.398	0.353	0.321
7	0.454	0.377	0.327	0.293	0.444	0.372	0.325	0.293	0.434	0.367	0.323	0.292
8	0.426	0.348	0.3	0.268	0.417	0.344	0.299	0.267	0.408	0.34	0.297	0.267
9	0.401	0.324	0.277	0.246	0.393	0.32	0.276	0.246	0.385	0.317	0.274	0.245
10	0.379	0.302	0.257	0.228	0.371	0.299	0.256	0.227	0.364	0.296	0.255	0.227

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.679	0.679	0.679	0.679	0.65	0.65	0.65	0.623	0.623	0.623	0.611
1	0.634	0.617	0.602	0.588	0.594	0.581	0.57	0.572	0.562	0.553	0.541
2	0.587	0.557	0.531	0.509	0.538	0.517	0.498	0.52	0.503	0.487	0.475
3	0.545	0.505	0.472	0.446	0.489	0.461	0.438	0.474	0.451	0.431	0.419
4	0.507	0.46	0.424	0.395	0.447	0.415	0.39	0.434	0.407	0.385	0.373
5	0.474	0.421	0.383	0.353	0.41	0.376	0.35	0.399	0.37	0.346	0.335
6	0.443	0.388	0.348	0.319	0.378	0.343	0.316	0.369	0.338	0.314	0.303
7	0.416	0.358	0.319	0.29	0.35	0.315	0.288	0.342	0.311	0.286	0.275
8	0.392	0.333	0.293	0.265	0.326	0.29	0.264	0.319	0.287	0.262	0.252
9	0.37	0.31	0.271	0.244	0.304	0.269	0.243	0.298	0.266	0.242	0.232
10	0.351	0.29	0.252	0.226	0.285	0.25	0.225	0.28	0.248	0.224	0.215

Average Luminance Table (cd/m²)

	0	45	90
0	35260	35260	35260
45	25786	19791	11062
55	16389	14781	9895
65	13094	12800	8897
75	9046	9663	5071
85	1221	1832	1221

Note: The zonal cavity calculation technique is accurate when luminaires with symmetric candela distributions are employed and when the luminaires are located symmetrically throughout the room. This unit has special characteristics and therefore these values should be used with caution.

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.

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