



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: 17150

DATE: 11-17-2009

PREPARED FOR: USA ILLUMINATION, INC.

CATALOG NUMBER: 1648-BL926-A

LUMINAIRE: FORMED STEEL HOUSING, CAST WHITE ENAMEL ALUMINUM AND STEEL TRIM WITH FROSTED GLASS ENCLOSURE.

LAMP: TWO VBU M130 39 WATT MR16 CERAMIC METAL HALIDE REFLECTOR LAMPS RATED AT 2100 LUMENS EACH.

LAMP CATALOG NUMBER: GE CMH39MR16/930/FL

BALLAST: TWO HATCH MC39-1-J-120X

MOUNTING: RECESSED

NOTE: THIS TEST WAS PRORATED TO A LUMEN RATING OF 1000 TO REPRESENT THE LUMEN RATING OF A GE 20 WATT CMHMR16 LAMP. THIS PRORATE WAS PERFORMED USING MEASURED PHOTOMETRIC DATA FROM LTL TEST REPORT NUMBER 14576.

Candela Distribution

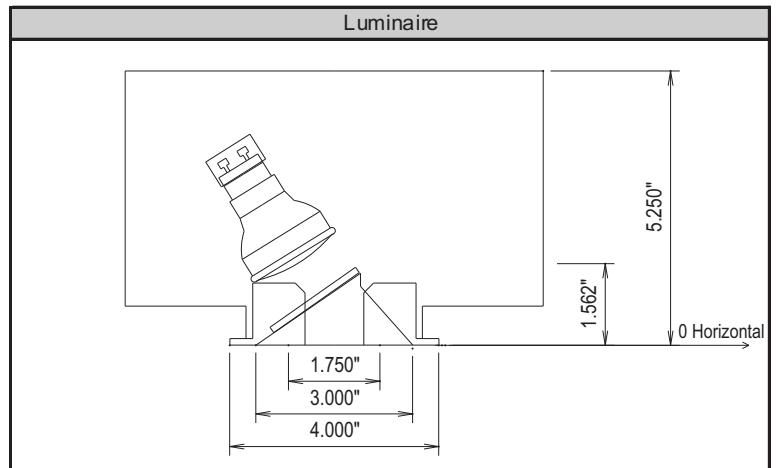
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	290	290	290	290	290	290	290	290	290	290	290	290	290	290	290	290	
5	365	358	339	313	287	265	248	237	234	237	248	265	287	313	339	358	28.4
15	650	588	457	341	261	212	183	168	164	168	183	212	261	341	457	588	94.1
25	1218	958	554	324	217	167	145	136	134	136	145	167	217	324	554	958	184.2
35	1682	1184	530	262	167	134	124	119	117	119	124	134	167	262	530	1184	264.3
45	1279	898	379	185	124	108	102	95	92	95	102	108	124	185	379	898	243.8
55	398	311	199	119	89	80	72	60	53	60	72	80	89	119	199	311	131.7
65	49	51	58	71	58	49	34	28	26	28	34	49	58	71	58	51	50.2
75	7	9	14	26	26	20	15	13	12	13	15	20	26	26	14	9	18.1
85	0	0	1	3	5	4	3	3	3	3	3	4	5	3	1	0	3.4
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	0

Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	306.7	15.3%	30.1%
0-40	570.9	28.5%	56.1%
0-60	946.4	47.3%	93.0%
0-90	1018.2	50.9%	100.0%
90-180	0.0	0.0%	0.0%
0-180	1018.2	50.9%	100.0%

Total luminaire efficiency: 50.9%

CIE Type: Direct
 Spacing Criterion: 0 deg: 2.56 90 deg: 1.03
 180 deg: 0.55 270 deg: 1.03



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	290	290	290	290	290	290	290	290	290	290	290	290	290	290	290	290
5	365	358	339	313	287	265	248	237	234	237	248	265	287	313	339	358
10	479	456	396	331	277	238	212	197	193	197	212	238	277	331	396	456
15	650	588	457	341	261	212	183	168	164	168	183	212	261	341	457	588
20	902	761	514	339	241	188	161	149	146	149	161	188	241	339	514	761
25	1218	958	554	324	217	167	145	136	134	136	145	167	217	324	554	958
30	1523	1124	562	297	192	149	133	128	126	128	133	149	192	297	562	1124
35	1682	1184	530	262	167	134	124	119	117	119	124	134	167	262	530	1184
40	1615	1102	463	223	144	121	114	108	106	108	114	121	144	223	463	1102
45	1279	898	379	185	124	108	102	95	92	95	102	108	124	185	379	898
50	788	579	291	150	106	94	88	79	74	79	88	94	106	150	291	579
55	398	311	199	119	89	80	72	60	53	60	72	80	89	119	199	311
60	160	138	114	94	73	64	54	37	34	37	54	64	73	94	114	138
65	49	51	58	71	58	49	34	28	26	28	34	49	58	71	58	51
70	15	19	28	48	43	35	23	20	18	20	23	35	43	48	28	19
75	7	9	14	26	26	20	15	13	12	13	15	20	26	26	14	9
80	4	5	6	11	13	11	9	8	7	8	9	11	13	11	6	5
85	0	0	1	3	5	4	3	3	3	3	3	4	5	3	1	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	7.0	45-50	110.7	90-95	0.0	135-140	0.0
5-10	21.4	50-55	80.0	95-100	0.0	140-145	0.0
10-15	37.5	55-60	51.7	100-105	0.0	145-150	0.0
15-20	56.6	60-65	31.3	105-110	0.0	150-155	0.0
20-25	79.5	65-70	19.0	110-115	0.0	155-160	0.0
25-30	104.7	70-75	11.7	115-120	0.0	160-165	0.0
30-35	126.6	75-80	6.5	120-125	0.0	165-170	0.0
35-40	137.7	80-85	2.9	125-130	0.0	170-175	0.0
40-45	133.2	85-90	0.5	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	0.621	0.621	0.621	0.621	0.606	0.606	0.606	0.606	0.592	0.592	0.592	0.592
1	0.579	0.557	0.537	0.52	0.565	0.545	0.527	0.511	0.551	0.534	0.518	0.503
2	0.535	0.496	0.464	0.437	0.521	0.486	0.457	0.432	0.509	0.477	0.45	0.427
3	0.493	0.442	0.403	0.372	0.48	0.434	0.398	0.369	0.469	0.426	0.393	0.366
4	0.454	0.395	0.352	0.32	0.443	0.388	0.348	0.318	0.432	0.382	0.345	0.316
5	0.419	0.355	0.31	0.278	0.408	0.349	0.307	0.277	0.398	0.343	0.304	0.275
6	0.387	0.32	0.275	0.244	0.378	0.315	0.273	0.243	0.368	0.31	0.27	0.242
7	0.359	0.29	0.245	0.215	0.35	0.285	0.244	0.214	0.342	0.281	0.242	0.214
8	0.333	0.263	0.22	0.191	0.325	0.26	0.219	0.191	0.318	0.256	0.217	0.19
9	0.31	0.241	0.199	0.171	0.303	0.238	0.198	0.171	0.296	0.235	0.196	0.17
10	0.29	0.221	0.181	0.154	0.283	0.218	0.179	0.154	0.277	0.216	0.178	0.153

Ceiling Cavity Reflectance	50				30			10			0
	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.566	0.566	0.566	0.566	0.542	0.542	0.542	0.519	0.519	0.519	0.509
1	0.527	0.513	0.499	0.488	0.493	0.483	0.473	0.475	0.467	0.459	0.449
2	0.486	0.459	0.437	0.417	0.443	0.425	0.408	0.428	0.413	0.399	0.389
3	0.447	0.411	0.383	0.359	0.398	0.374	0.353	0.385	0.365	0.348	0.338
4	0.411	0.369	0.337	0.312	0.358	0.33	0.308	0.348	0.324	0.304	0.294
5	0.38	0.333	0.299	0.272	0.323	0.293	0.269	0.314	0.288	0.267	0.257
6	0.351	0.301	0.266	0.239	0.293	0.262	0.237	0.285	0.257	0.236	0.226
7	0.326	0.274	0.238	0.212	0.267	0.235	0.211	0.26	0.231	0.209	0.2
8	0.303	0.25	0.214	0.189	0.244	0.211	0.188	0.238	0.209	0.187	0.178
9	0.283	0.229	0.194	0.169	0.224	0.192	0.169	0.219	0.189	0.168	0.159
10	0.265	0.211	0.176	0.153	0.206	0.174	0.152	0.202	0.172	0.151	0.143

Average Luminance Table (cd/m²)

	0	45	90
0	28503	28503	28503
45	178031	52688	17207
55	68256	34202	15325
65	11424	13431	13542
75	2688	5204	9742
85	0	1232	5815

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.

