



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: 17148

DATE: 11-17-2009

PREPARED FOR: USA ILLUMINATION, INC.

CATALOG NUMBER: 1624-BL920-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

BALLASTS: TWO METROLIGHT SUPER HID 39

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 NUMBER 13905.

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	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	
5	2141	2128	2122	2116	2118	2116	2122	2128	2141	2128	2122	2116	2118	2116	2122	2128	191.0
15	1325	1319	1317	1315	1312	1315	1317	1319	1325	1319	1317	1315	1312	1315	1317	1319	363.0
25	646	645	643	634	626	634	643	645	646	645	643	634	626	634	643	645	296.6
35	329	332	329	306	291	306	329	332	329	332	329	306	291	306	329	332	201.8
45	182	182	176	148	136	148	176	182	182	182	176	148	136	148	176	182	129.9
55	104	104	91	70	61	70	91	104	104	104	91	70	61	70	91	104	78.4
65	60	56	36	27	24	27	36	56	60	56	36	27	24	27	36	56	40.4
75	19	17	9	9	8	9	9	17	19	17	9	9	8	9	9	17	13.5
85	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	1.3
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	

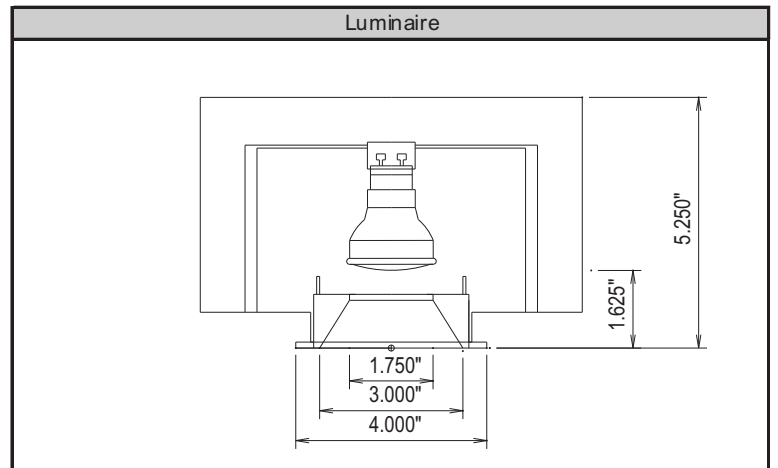
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	850.6	42.5%	64.6%
0-40	1052.4	52.6%	80.0%
0-60	1260.7	63.0%	95.8%
0-90	1315.8	65.8%	100.0%
90-180	0.0	0.0%	0.0%
0-180	1315.8	65.8%	100.0%

Total luminaire efficiency: 65.8%

CIE Type: Direct

Spacing Criterion: 0 deg: 0.56 90 deg: 0.56
180 deg: 0.56 270 deg: 0.56



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	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264	2264
5	2141	2128	2122	2116	2118	2116	2122	2128	2141	2128	2122	2116	2118	2116	2122	2128
10	1774	1763	1758	1756	1754	1756	1758	1763	1774	1763	1758	1756	1754	1756	1758	1763
15	1325	1319	1317	1315	1312	1315	1317	1319	1325	1319	1317	1315	1312	1315	1317	1319
20	931	929	928	922	916	922	928	929	931	929	928	922	916	922	928	929
25	646	645	643	634	626	634	643	645	646	645	643	634	626	634	643	645
30	458	457	454	440	430	440	454	457	458	457	454	440	430	440	454	457
35	329	332	329	306	291	306	329	332	329	332	329	306	291	306	329	332
40	242	244	242	212	199	212	242	244	242	244	242	212	199	212	242	244
45	182	182	176	148	136	148	176	182	182	182	176	148	136	148	176	182
50	137	137	128	102	92	102	128	137	137	137	128	102	92	102	128	137
55	104	104	91	70	61	70	91	104	104	104	91	70	61	70	91	104
60	80	77	61	45	40	45	61	77	80	77	61	45	40	45	61	77
65	60	56	36	27	24	27	36	56	60	56	36	27	24	27	36	56
70	42	37	19	14	14	14	19	37	42	37	19	14	14	14	19	37
75	19	17	9	9	8	9	9	17	19	17	9	9	8	9	9	17
80	5	5	4	4	4	4	4	5	5	5	4	4	4	4	4	5
85	1	0	0	1	0	1	0	0	1	0	0	1	0	1	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	52.5	45-50	57.4	90-95	0.0	135-140	0.0
5-10	138.6	50-55	44.6	95-100	0.0	140-145	0.0
10-15	180.9	55-60	33.8	100-105	0.0	145-150	0.0
15-20	182.1	60-65	24.3	105-110	0.0	150-155	0.0
20-25	161.2	65-70	16.1	110-115	0.0	155-160	0.0
25-30	135.3	70-75	9.4	115-120	0.0	160-165	0.0
30-35	111.5	75-80	4.0	120-125	0.0	165-170	0.0
35-40	90.3	80-85	1.3	125-130	0.0	170-175	0.0
40-45	72.5	85-90	0.0	130-135	0.0	175-180	0.0



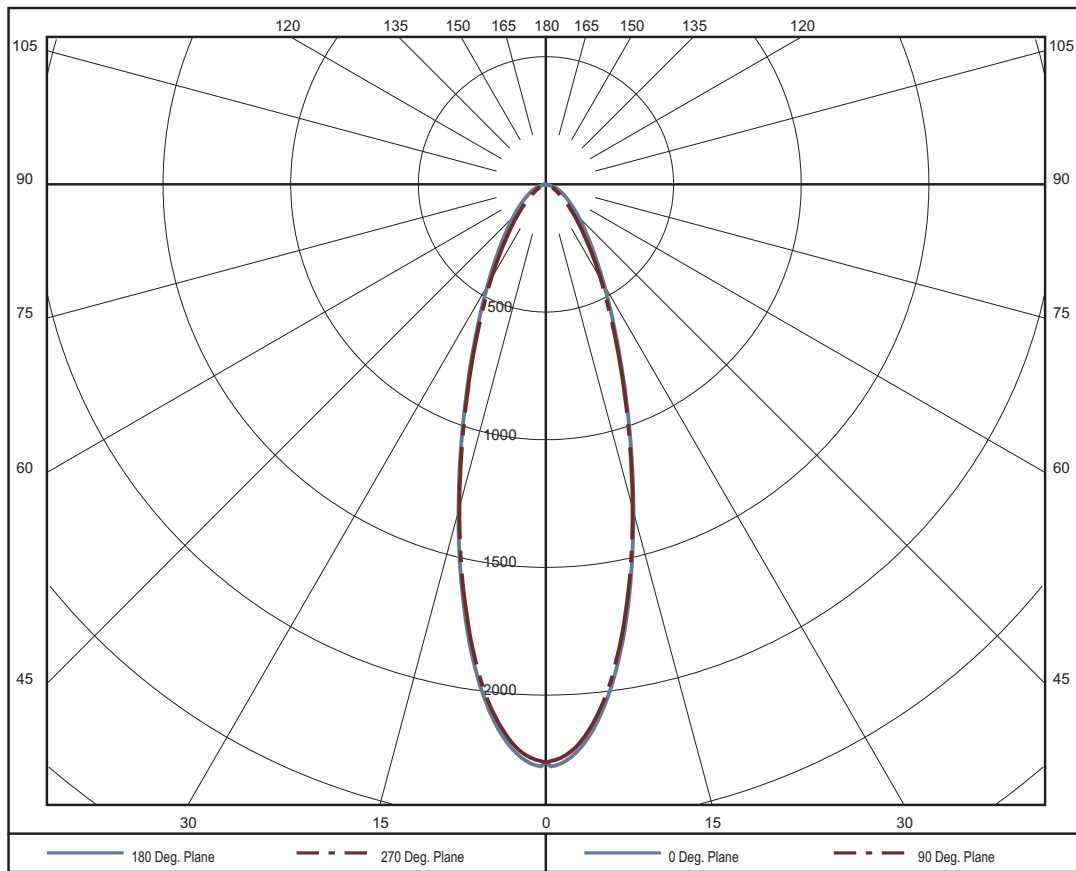
Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.802	0.802	0.802	0.802	0.783	0.783	0.783	0.783	0.765	0.765	0.765	0.765
1	0.76	0.738	0.718	0.7	0.743	0.723	0.705	0.689	0.726	0.708	0.692	0.678
2	0.717	0.678	0.647	0.62	0.702	0.666	0.637	0.613	0.687	0.655	0.628	0.606
3	0.677	0.627	0.588	0.557	0.663	0.617	0.581	0.553	0.649	0.607	0.575	0.548
4	0.64	0.581	0.539	0.507	0.627	0.573	0.534	0.504	0.615	0.566	0.529	0.501
5	0.606	0.542	0.498	0.466	0.594	0.535	0.494	0.464	0.583	0.529	0.491	0.462
6	0.574	0.507	0.463	0.432	0.564	0.502	0.46	0.43	0.554	0.496	0.457	0.429
7	0.545	0.477	0.433	0.403	0.536	0.472	0.43	0.401	0.527	0.467	0.428	0.4
8	0.519	0.449	0.406	0.377	0.51	0.445	0.405	0.376	0.502	0.442	0.403	0.376
9	0.495	0.425	0.383	0.355	0.487	0.422	0.382	0.355	0.48	0.418	0.38	0.354
10	0.473	0.403	0.363	0.336	0.466	0.4	0.361	0.335	0.459	0.398	0.36	0.335

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	0.731	0.731	0.731	0.731	0.7	0.7	0.7	0.671	0.671	0.671	0.658
1	0.696	0.682	0.669	0.657	0.657	0.647	0.637	0.634	0.626	0.619	0.607
2	0.659	0.633	0.611	0.593	0.614	0.596	0.58	0.595	0.581	0.568	0.556
3	0.624	0.59	0.562	0.539	0.574	0.55	0.531	0.559	0.539	0.523	0.512
4	0.592	0.551	0.52	0.495	0.538	0.511	0.489	0.525	0.502	0.483	0.473
5	0.562	0.517	0.483	0.458	0.506	0.476	0.454	0.495	0.47	0.449	0.439
6	0.535	0.486	0.452	0.426	0.477	0.446	0.423	0.468	0.441	0.42	0.41
7	0.51	0.459	0.424	0.398	0.451	0.419	0.396	0.443	0.415	0.394	0.384
8	0.487	0.434	0.399	0.374	0.427	0.396	0.372	0.421	0.392	0.371	0.361
9	0.466	0.412	0.377	0.353	0.406	0.374	0.352	0.401	0.372	0.35	0.341
10	0.446	0.392	0.358	0.334	0.387	0.355	0.333	0.382	0.353	0.332	0.323

Average Luminance Table (cd/m²)

	0	45	90
0	222828	222828	222828
45	25289	24500	18947
55	17922	15573	10525
65	13954	8487	5512
75	7086	3494	3172
85	580	552	557

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) 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. 2) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT, FIELD PERFORMANCE MAY DIFFER.





LTL TEST #17148

CIRCLE-OF-LIGHT

Ft below	FC nadir	Dia @ 50%
6.0	62.9	3.3
8.0	35.4	4.5
10.0	22.6	5.6
12.0	15.7	6.7
14.0	11.6	7.8
16.0	8.8	8.9

NOTE: 'Dia' spans the edge-points that are half of nadir FC