



# 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: 14576

DATE: 12-18-2008

PREPARED FOR: USA ILLUMINATION

CATALOG NUMBER: 1648-TRIM/BL-460X-A-120V/(2) 39W CMHMR16 MAX TILT

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

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

LAMP CATALOG NUMBER: GE CMH39MR16/930/FL

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

MOUNTING: RECESSED

### CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	FLUX
0	608	608	608	608	608	608	608	608	608	
5	767	752	712	657	602	556	520	497	492	59
15	1366	1235	959	716	548	444	384	353	344	197
25	2558	2012	1163	680	456	350	304	287	282	387
35	3533	2486	1112	551	351	281	260	250	247	557
45	2686	1885	795	388	260	226	214	200	193	514
55	835	654	419	251	187	167	151	127	112	276
65	103	108	121	149	122	103	71	58	54	104
75	15	18	29	55	54	41	32	28	26	38
85	0	1	2	6	11	9	7	6	5	7
90	0	0	0	0	0	0	0	0	0	

### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	643	15.3	30.1
0- 40	1200	28.6	56.1
0- 60	1990	47.4	93.0
0- 90	2139	50.9	100.0
90-180	0	0.0	0.0
0-180	2139	50.9	100.0

TOTAL LUMINAIRE EFFICIENCY: 50.9%

CIE TYPE: DIRECT

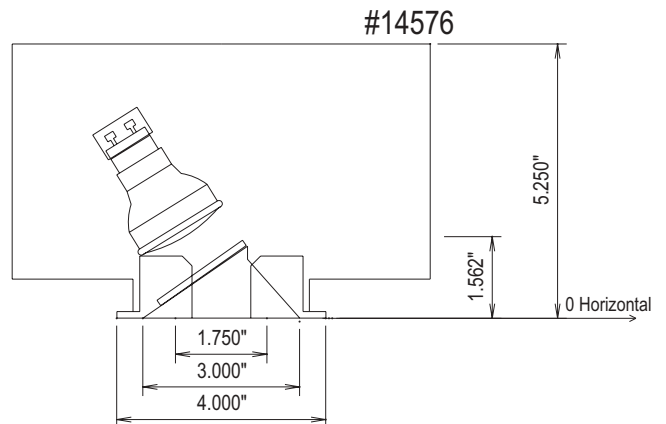
PLANE: 0-DEG 90-DEG 180-DEG

SPACING CRITERIA: 2.6 1.0 0.6

LUMINOUS LENGTH: 3.000 5.250

### LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	59831.	59831.	59831.
45	373801.	110637.	36183.
55	143257.	71886.	32083.
65	23983.	28175.	28407.
75	5703.	11026.	20531.
85	0.	2258.	12420.



Approved By: MG

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



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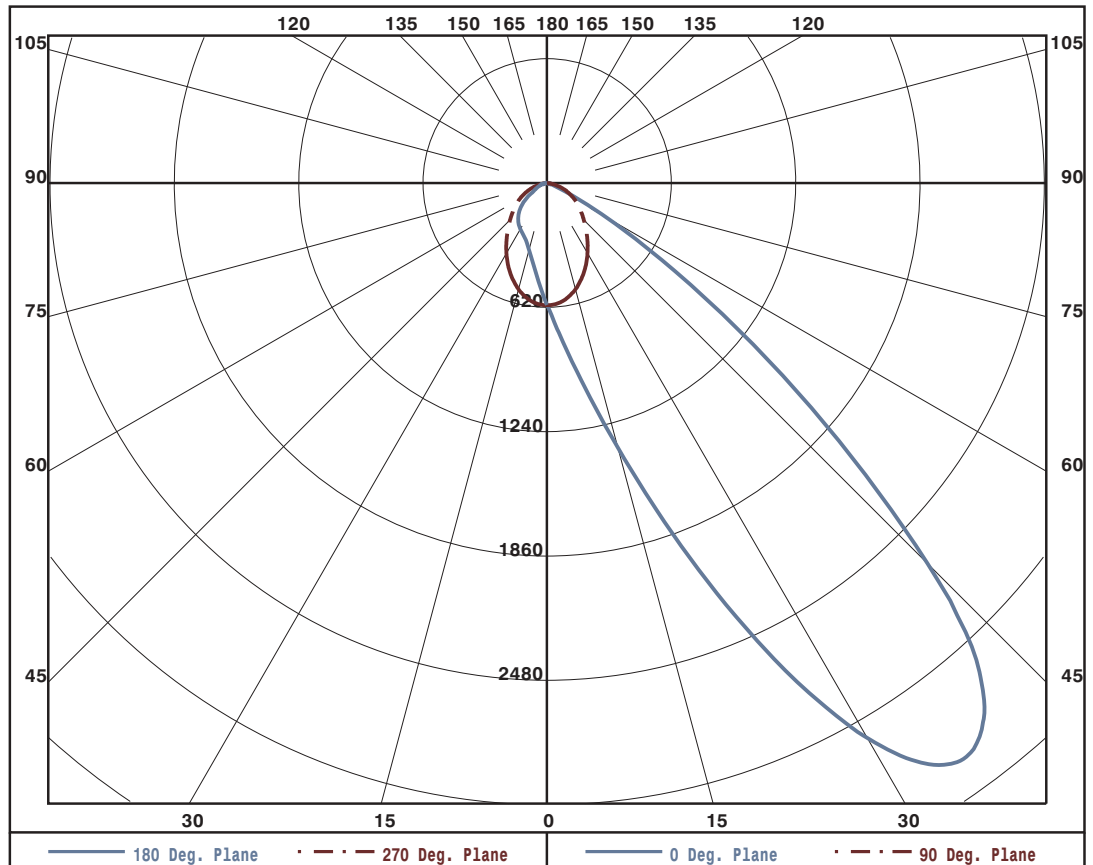
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### CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0	608	608	608	608	608	608	608	608	608
5	767	752	712	657	602	556	520	497	492
10	1006	957	832	696	582	499	445	414	405
15	1366	1235	959	716	548	444	384	353	344
20	1894	1598	1079	711	506	394	338	312	306
25	2558	2012	1163	680	456	350	304	287	282
30	3197	2360	1180	624	404	313	280	268	265
35	3533	2486	1112	551	351	281	260	250	247
40	3392	2315	973	469	303	253	239	228	223
45	2686	1885	795	388	260	226	214	200	193
50	1654	1215	610	314	222	198	185	166	156
55	835	654	419	251	187	167	151	127	112
60	335	290	240	197	154	135	114	77	72
65	103	108	121	149	122	103	71	58	54
70	30	39	59	101	89	73	48	42	39
75	15	18	29	55	54	41	32	28	26
80	8	10	13	22	28	23	18	16	15
85	0	1	2	6	11	9	7	6	5
90	0	0	0	0	0	0	0	0	0

### ZONAL LUMEN SUMMARY

0- 5	15.
5- 10	45.
10- 15	78.
15- 20	118.
20- 25	167.
25- 30	220.
30- 35	267.
35- 40	290.
40- 45	281.
45- 50	233.
50- 55	168.
55- 60	108.
60- 65	65.
65- 70	39.
70- 75	24.
75- 80	13.
80- 85	6.
85- 90	1.





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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

Table with 18 columns (RC, RW, and 16 numerical values) and 11 rows (0-10). It lists coefficients of utilization for various room widths (RW) and room cavity ratios (RC).

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 COEFFICIENTS 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) 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.