

REPORT NUMBER: ITL87378-GONIOPHOTOMETRY

PAGE: 1 OF 6

ISSUE DATE: 05/19/16

PREPARED FOR: OXYGEN LIGHTING

CATALOG NUMBER: 3-5120

LUMINAIRE: FABRICATED SPECULAR METAL WALL MOUNTING BRACKET AND BASE, MACHINED DIFFUSE METAL DIFFUSER MOUNTING COLLAR, TRANSLUCENT WHITE CYLINDRICAL GLASS DIFFUSER.

LAMP: ONE 7-WATT MR-16 STYLE GU-10 BASE LED LAMP, SATCO 7MR16/LED/40/3K/120V/GU10, VERTICAL BASE-DOWN POSITION.

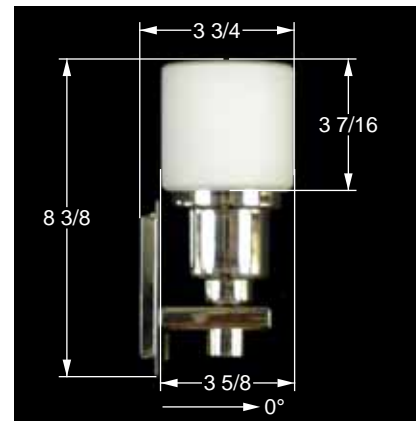
INPUT ELECTRICAL: 120.0 VOLTS, 7.04 WATTS, 0.0810 AMPS

MOUNTING: WALL

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LAMP.

TEST PROCEDURE: IESNA LM-79-08

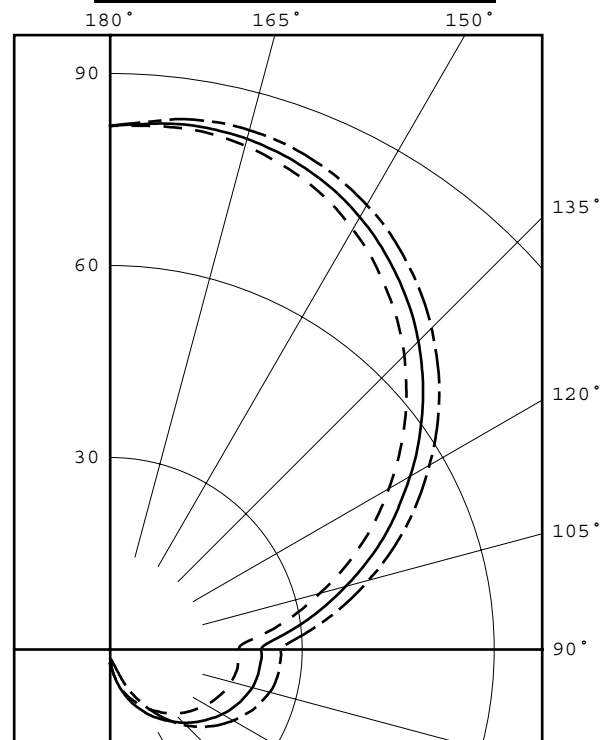
TEST DISTANCE = 35.0 FEET



CANDELA DISTRIBUTION

FLUX

	0.0	45.0	90.0	135.0	180.0	
0	2.2	2.2	2.2	2.2	2.2	0
5	2.9	3.0	3.0	2.3	1.9	0
15	6.2	6.2	6.4	5.0	2.6	2
25	8.9	9.3	9.9	9.2	7.0	4
35	11.6	12.1	13.1	13.4	12.0	8
45	14.1	14.7	16.2	17.2	16.8	12
55	16.3	17.1	18.9	20.6	20.6	16
65	18.2	19.2	21.3	23.2	23.6	20
75	19.6	20.7	23.0	25.0	25.8	23
85	20.1	21.2	23.6	25.8	26.6	25
90	20.1	21.2	23.6	25.8	26.7	
95	23.2	24.3	27.3	29.9	30.9	30
105	33.9	35.2	38.1	40.8	41.8	40
115	45.1	46.2	49.0	51.4	52.6	48
125	55.5	56.5	59.1	61.4	62.5	53
135	65.0	65.9	68.1	70.2	71.0	53
145	72.7	73.5	75.2	77.0	77.7	47
155	78.4	78.8	80.2	81.5	82.1	37
165	81.5	81.8	82.6	83.5	84.0	23
175	82.1	82.2	82.5	82.8	82.9	8
180	81.8	81.8	81.8	81.8	81.8	



LEGEND:
0-deg -----
90-deg =====
180-deg -----

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	6	1.3
0- 40	14	3.1
0- 60	42	9.4
0- 90	111	24.6
90-120	118	26.3
90-130	171	38.0
90-150	271	60.2
90-180	339	75.4
0-180	450	100.0

EFFICACY = 63.9 lm/W
CIE TYPE - SEMI-INDIRECT
PLANE : 0-DEG 90-DEG
BEAM ANGLE (50%) : 142.5 X 142.9 DEGREES
FIELD ANGLE (10%) : 309.1 X 318.8 DEGREES

Checked M KLOPF
Approved R BEATTIE
Lighting Engineer



itl boulder
 THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
 4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL87378-GONIOPHOTOMETRY
 ISSUE DATE: 05/19/16
 PREPARED FOR: OXYGEN LIGHTING

PAGE: 2 OF 6

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	2210.	2304.	2539.
55	2269.	2381.	2631.
65	2339.	2468.	2738.
75	2403.	2538.	2820.
85	2419.	2552.	2841.



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL87378-GONIOPHOTOMETRY
ISSUE DATE: 05/19/16
PREPARED FOR: OXYGEN LIGHTING

PAGE: 3 OF 6

CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
5.0	2.9	3.0	3.0	3.0	3.0	2.7	2.3	2.0	1.9
10.0	4.6	4.6	4.7	4.7	4.5	3.7	2.9	2.3	2.0
15.0	6.2	6.1	6.2	6.5	6.4	5.4	5.0	3.9	2.6
20.0	7.6	7.5	7.8	8.2	8.2	7.4	7.2	5.0	4.2
25.0	8.9	8.8	9.3	9.8	9.9	9.4	9.2	6.9	7.0
30.0	10.3	10.2	10.7	11.3	11.6	11.3	11.3	9.1	9.4
35.0	11.6	11.5	12.1	12.8	13.1	13.1	13.4	10.8	12.0
40.0	12.9	12.8	13.4	14.2	14.6	14.9	15.3	12.4	14.5
45.0	14.1	14.1	14.7	15.5	16.2	16.6	17.2	13.9	16.8
50.0	15.3	15.4	16.0	16.8	17.6	18.2	19.0	15.2	18.8
55.0	16.3	16.4	17.1	18.1	18.9	19.7	20.6	16.4	20.6
60.0	17.3	17.5	18.2	19.2	20.2	21.1	21.9	17.6	22.2
65.0	18.2	18.4	19.2	20.2	21.3	22.3	23.2	18.7	23.6
70.0	19.0	19.2	20.0	21.1	22.2	23.3	24.2	19.6	24.8
75.0	19.6	19.9	20.7	21.7	23.0	24.1	25.0	20.3	25.8
80.0	20.0	20.3	21.1	22.2	23.4	24.6	25.5	20.8	26.4
85.0	20.1	20.4	21.2	22.4	23.6	24.8	25.8	21.0	26.6
90.0	20.1	20.4	21.2	22.4	23.6	24.9	25.8	21.1	26.7
95.0	23.2	23.5	24.3	25.7	27.3	28.6	29.9	30.6	30.9
100.0	28.6	28.9	29.8	31.1	32.7	34.0	35.3	36.0	36.4
105.0	33.9	34.3	35.2	36.6	38.1	39.5	40.8	41.5	41.8
110.0	39.6	39.8	40.8	42.1	43.7	45.0	46.3	47.0	47.3
115.0	45.1	45.3	46.2	47.5	49.0	50.4	51.4	52.3	52.6
120.0	50.3	50.5	51.4	52.7	54.1	55.5	56.5	57.3	57.6
125.0	55.5	55.7	56.5	57.7	59.1	60.5	61.4	62.1	62.5
130.0	60.4	60.5	61.4	62.5	63.8	65.1	66.0	66.7	67.0
135.0	65.0	65.1	65.9	66.9	68.1	69.4	70.2	70.8	71.0
140.0	69.1	69.2	69.9	70.8	71.9	73.0	73.8	74.3	74.6
145.0	72.7	72.9	73.5	74.3	75.2	76.3	77.0	77.5	77.7
150.0	75.8	75.9	76.4	77.2	78.0	78.8	79.5	80.0	80.2
155.0	78.4	78.4	78.8	79.5	80.2	81.0	81.5	82.0	82.1
160.0	80.2	80.3	80.6	81.1	81.7	82.4	82.9	83.3	83.4
165.0	81.5	81.5	81.8	82.2	82.6	83.1	83.5	83.9	84.0
170.0	82.2	82.2	82.3	82.6	82.9	83.1	83.5	83.8	83.9
175.0	82.1	82.2	82.2	82.4	82.5	82.6	82.8	82.8	82.9
180.0	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL87378-GONIOPHOTOMETRY
ISSUE DATE: 05/19/16
PREPARED FOR: OXYGEN LIGHTING

PAGE: 4 OF 6

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	0
5- 10	0
10- 15	1
15- 20	1
20- 25	2
25- 30	2
30- 35	3
35- 40	4
40- 45	5
45- 50	7
50- 55	8
55- 60	9
60- 65	10
65- 70	11
70- 75	11
75- 80	12
80- 85	12
85- 90	13
90- 95	14
95-100	16
100-105	19
105-110	21
110-115	23
115-120	25
120-125	26
125-130	27
130-135	27
135-140	26
140-145	25
145-150	23
150-155	20
155-160	17
160-165	14
165-170	10
170-175	6
175-180	2

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	0
0- 20	2
0- 30	6
0- 40	14
0- 50	26
0- 60	42
0- 70	63
0- 80	86
0- 90	111
0-100	141
0-110	181
0-120	229
0-130	282
0-140	334
0-150	382
0-160	419
0-170	442
0-180	450



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL87378-GONIOPHOTOMETRY

PAGE: 5 OF 6

ISSUE DATE: 05/19/16

PREPARED FOR: OXYGEN LIGHTING

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0	
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	10	11	10	11	10	11	10	11	10	11	10	11	10	11	10	11	10	11	10
1	89	84	79	75	79	74	70	66	56	53	51	40	38	36	24	23	22	25	15
2	80	72	65	59	70	63	57	52	48	43	40	33	30	28	20	18	16	10	7
3	72	62	54	48	64	55	48	42	41	36	32	28	25	22	17	15	13	7	7
4	66	54	46	39	58	48	41	35	36	31	26	25	21	18	14	12	10	6	6
5	60	48	39	33	52	42	35	29	32	26	22	22	18	15	13	10	8	4	4
6	55	42	34	28	48	37	30	25	28	23	19	19	16	13	11	9	7	4	4
7	50	38	30	24	44	33	26	21	25	20	16	17	14	11	10	8	6	3	3
8	47	34	26	21	41	30	23	18	23	18	14	16	12	9	9	7	5	2	2
9	43	31	23	18	38	27	21	16	21	16	12	14	11	8	8	6	4	2	2
10	40	28	21	16	35	25	18	14	19	14	11	13	10	7	8	5	4	2	2

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.

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.



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL87378-GONIOPHOTOMETRY
ISSUE DATE: 05/19/16
PREPARED FOR: OXYGEN LIGHTING

PAGE: 6 OF 6

ADDRESS: 201 RAILHEAD ROAD
FORT WORTH, TX 76106

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.