

REPORT NUMBER: ITL90438-GONIOPHOTOMETRY

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ISSUE DATE: 05/08/18

REVISED: 05/21/18

PREPARED FOR: BOCK LIGHTING

ADDRESS: 2476 EDISON BLVD

TWINSBURG, OH 44087

CATALOG NUMBER: BRL16-LBA01-2-3000LM-40K/4CD-PA16

LUMINAIRE: FABRICATED WHITE PAINTED METAL DRIVER HOUSING, EXTRUDED BLACK FINISHED FINNED METAL HEAT SINK WITH SUNON HA60151V4-000U-999 COOLING FAN ON TOP, TWO CIRCUIT BOARDS EACH WITH ONE LED AND MOLDED WHITE PLASTIC LED SURROUND, INTERIOR FROSTED PLASTIC LENS SUSPENDED BELOW LEDS WITH 4 SEMI-SPECULAR METAL STANDOFFS, WHITE PAINTED FLAT METAL REFLECTOR MOUNTING COLLAR, CLEAR PLASTIC REFLECTOR WITH LINEAR EXTERIOR VERTICAL PRISMS AND CONCENTRIC CIRCULAR UPPER INTERIOR PRISMS, CLEAR RADIALLY PRISMATIC PLASTIC BOTTOM LENS, FORMED SEMI-SPECULAR METAL LENS MOUNTING RING. LENS PRISMS IN.

LAMPS: TWO WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 120.1 VOLTS, 50.8 WATTS, 0.425 AMPS

MOUNTING: PENDANT

LED DRIVERS: TWO ADVANCE XI036C100V054DSM5, DRIVERS HAVE MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST. CLIENT STATES EACH DRIVER PROGRAMMED FOR 660mA OUTPUT. INVENTRONICS DHV-003S012SS DC/DC CONVERTER ATTACHED TO OUTPUT LEADS OF ONE DRIVER.

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

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 FEET



THIS 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.

Approved *C STOUT*

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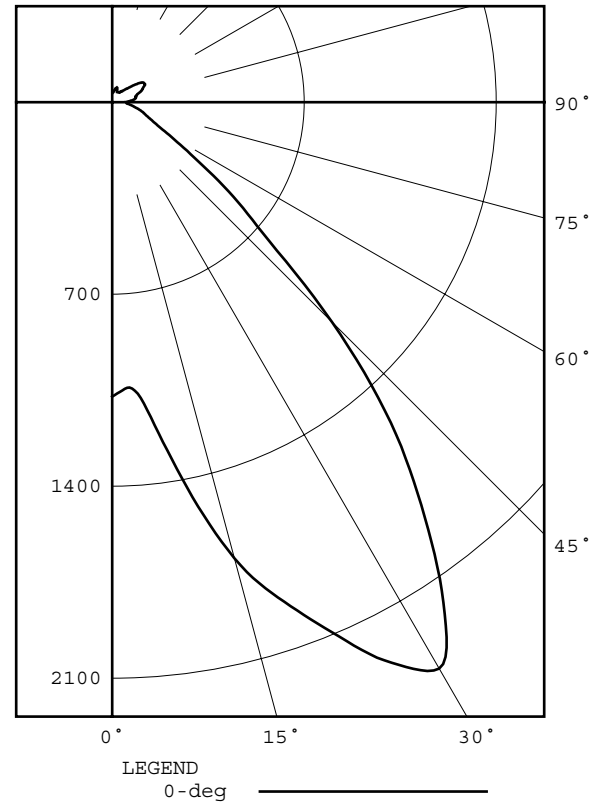
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DEG	CANDELA	LUMENS
0	1073	
5	1067	112
15	1721	490
25	2220	1025
35	2067	1277
45	1133	869
55	406	378
65	162	168
75	101	106
85	55	64
90	51	
95	71	76
105	91	98
115	124	124
125	122	106
135	65	51
145	43	28
155	42	20
165	52	15
175	35	4
180	34	

ZONAL ZONE	LUMEN LUMENS	SUMMARY %FIXT
0- 30	1627	32.5
0- 40	2904	57.9
0- 60	4152	82.8
0- 90	4490	89.6
90-120	298	6.0
90-130	405	8.1
90-150	484	9.7
90-180	523	10.4
0-180	5013	100.0

EFFICACY = 98.7 lm/W
 CIE TYPE - SEMI-DIRECT
 SPACING CRITERION: 1.54
 BEAM ANGLE (50%) : 36.9 DEGREES
 FIELD ANGLE (10%) : 120.2 DEGREES





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

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LUMINOUS DIAMETER: 15.625
HEIGHT OF SIDE : 12.438

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	6433.
55	2338.
65	976.
75	660.
85	405.



NVLAP LAB CODE: 200925-0

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CANDELA DISTRIBUTION

0.0	1073
5.0	1067
10.0	1356
15.0	1721
20.0	1972
25.0	2220
30.0	2384
35.0	2067
40.0	1639
45.0	1133
50.0	667
55.0	406
60.0	240
65.0	162
70.0	126
75.0	101
80.0	76
85.0	55
90.0	51
95.0	71
100.0	86
105.0	91
110.0	109
115.0	124
120.0	136
125.0	122
130.0	87
135.0	65
140.0	51
145.0	43
150.0	41
155.0	42
160.0	54
165.0	52
170.0	44
175.0	35
180.0	34



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	25
5- 10	87
10- 15	184
15- 20	306
20- 25	440
25- 30	585
30- 35	660
35- 40	617
40- 45	515
45- 50	354
50- 55	233
55- 60	146
60- 65	96
65- 70	72
70- 75	60
75- 80	47
80- 85	35
85- 90	28
90- 95	33
95-100	44
100-105	47
105-110	51
110-115	59
115-120	64
120-125	61
125-130	46
130-135	30
135-140	21
140-145	16
145-150	12
150-155	10
155-160	10
160-165	9
165-170	6
170-175	3
175-180	1

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	112
0- 20	602
0- 30	1627
0- 40	2904
0- 50	3773
0- 60	4152
0- 70	4320
0- 80	4426
0- 90	4490
0-100	4566
0-110	4665
0-120	4788
0-130	4894
0-140	4946
0-150	4974
0-160	4994
0-170	5009
0-180	5013



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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	117	117	117	117	117	113	113	113	113	105	105	105	99	99	99	92	92	92	90
1	108	104	101	98	105	101	98	95	95	93	90	90	88	86	84	83	81	79	79
2	100	93	88	83	97	91	86	81	86	82	78	81	78	75	77	74	72	69	69
3	93	84	77	72	90	82	75	70	77	72	68	73	69	65	70	66	63	61	61
4	86	76	68	62	83	74	67	61	70	64	59	67	62	58	63	59	56	54	54
5	80	68	61	55	77	67	59	54	63	57	53	61	55	51	58	53	50	47	47
6	74	62	54	48	71	61	53	48	58	51	47	55	50	45	53	48	44	42	42
7	69	56	49	43	66	55	48	43	53	46	42	51	45	41	48	44	40	38	38
8	64	52	44	39	62	51	43	38	48	42	37	46	41	37	45	40	36	34	34
9	60	47	40	35	58	46	39	34	45	38	34	43	37	33	41	36	32	31	31
10	56	44	36	31	54	43	36	31	41	35	31	40	34	30	38	33	29	28	28

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.

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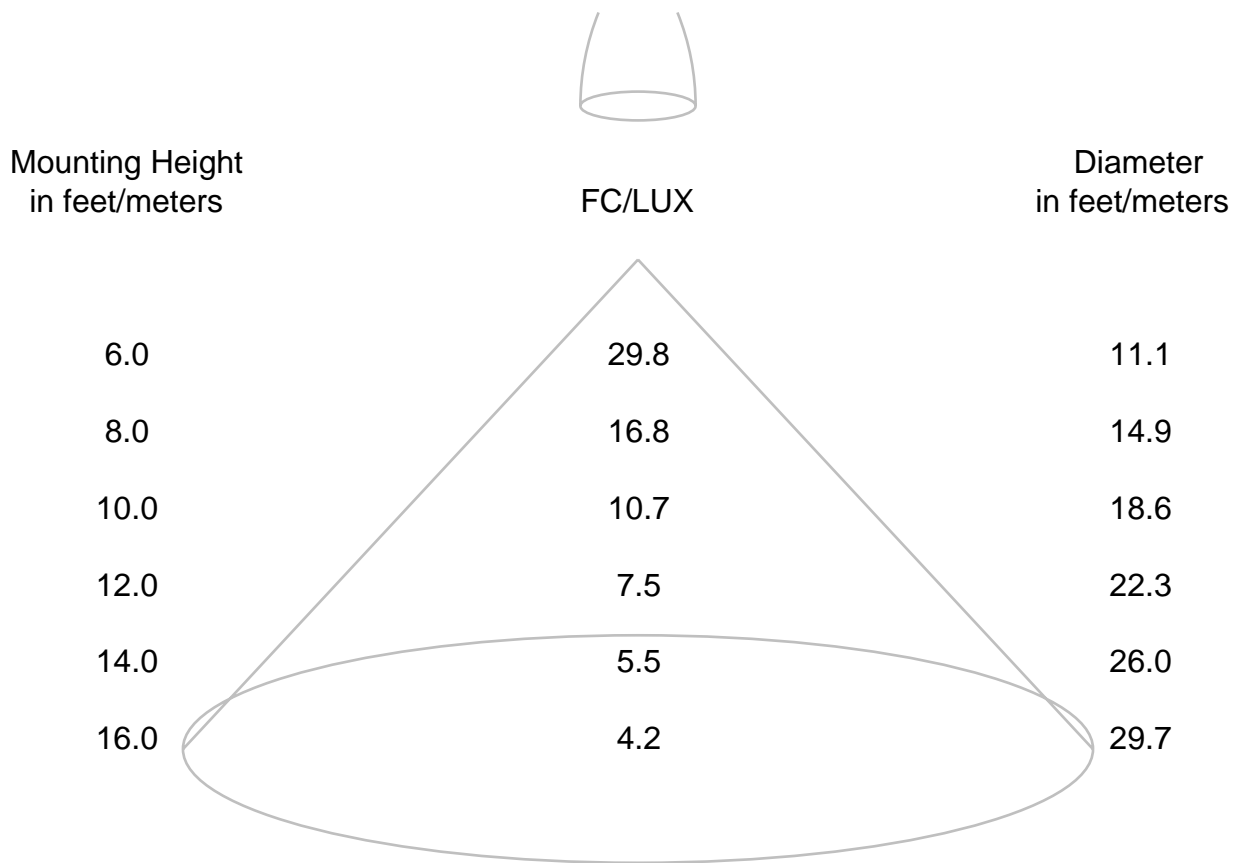
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CONE OF LIGHT DIAGRAM

(diameter shown is where fc/lux value is half the fc/lux at nadir)



If distances are feet, results are footcandles.
If distances are meters, results are lux.