

REPORT NUMBER: ITL90473-GONIOPHOTOMETRY

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ISSUE DATE: 05/18/18

PREPARED FOR: BOCK LIGHTING

ADDRESS: 2476 EDISON BLVD
TWINSBURG, OH 44087

CATALOG NUMBER: BRL16-LBA01-2-3000LM-40K

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. OPEN BOTTOM.

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

INPUT ELECTRICAL: 120.0 VOLTS, 50.9 WATTS, 0.426 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

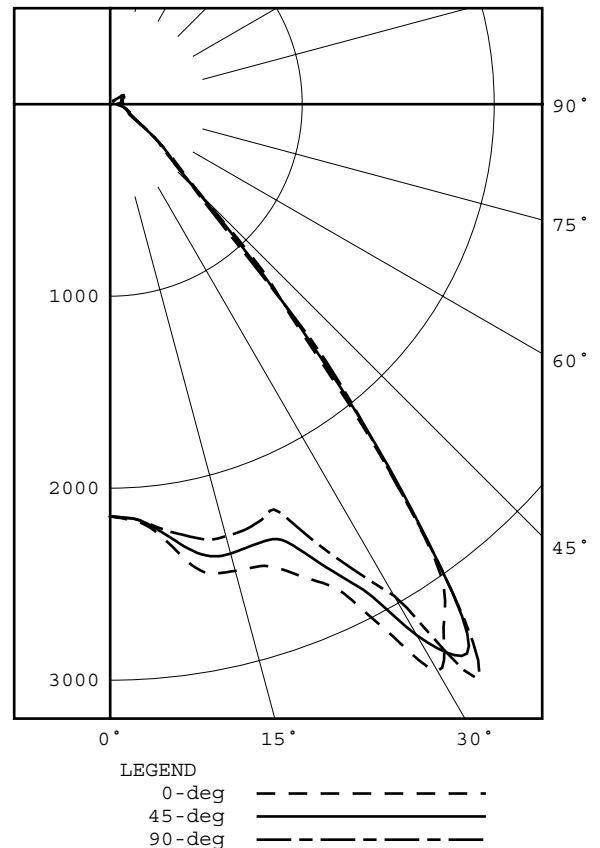
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CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	2146	2146	2146	2146	2146	
5	2204	2198	2192	2192	2189	215
15	2516	2485	2423	2360	2329	684
25	2781	2751	2660	2564	2510	1264
35	3007	3042	3108	3126	3117	1744
45	671	663	640	619	610	601
55	228	222	219	224	236	212
65	104	104	107	109	110	109
75	86	84	82	79	78	85
85	43	43	43	45	46	51
90	38	37	38	38	38	
95	54	54	52	54	54	56
105	66	64	60	63	65	67
115	72	71	69	71	72	72
125	81	77	69	64	65	61
135	31	29	25	22	21	22
145	17	17	16	16	15	10
155	15	15	14	14	14	7
165	14	14	14	13	13	4
175	11	11	11	10	10	1
180	8	8	8	8	8	

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	2163	41.1
0- 40	3908	74.2
0- 60	4720	89.7
0- 90	4965	94.3
90-120	194	3.7
90-130	255	4.8
90-150	287	5.5
90-180	299	5.7
0-180	5264	100.0

EFFICACY = 103.4 lm/W
CIE TYPE - DIRECT
PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.56 1.57
BEAM ANGLE (50%) : 78.6 X 79.8 DEGREES
FIELD ANGLE (10%) : 102.2 X 100.0 DEGREES





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LUMINOUS DIAMETER: 16.313
HEIGHT OF SIDE : 10.813

LUMINANCE DATA IN CANDELA/SQ M				
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG	
45	3817.	3640.	3470.	
55	1337.	1284.	1384.	
65	650.	668.	687.	
75	594.	566.	539.	
85	344.	344.	368.	



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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	2146	2146	2146	2146	2146
5.0	2204	2198	2192	2192	2189
10.0	2435	2407	2351	2303	2282
15.0	2516	2485	2423	2360	2329
20.0	2573	2514	2415	2338	2304
25.0	2781	2751	2660	2564	2510
30.0	3409	3367	3193	3030	2956
35.0	3007	3042	3108	3126	3117
40.0	1547	1558	1643	1703	1750
45.0	671	663	640	619	610
50.0	394	389	381	363	354
55.0	228	222	219	224	236
60.0	131	131	135	141	148
65.0	104	104	107	109	110
70.0	95	92	94	94	96
75.0	86	84	82	79	78
80.0	61	61	62	63	65
85.0	43	43	43	45	46
90.0	38	37	38	38	38
95.0	54	54	52	54	54
100.0	67	63	58	60	61
105.0	66	64	60	63	65
110.0	65	65	63	66	68
115.0	72	71	69	71	72
120.0	84	81	76	79	82
125.0	81	77	69	64	65
130.0	55	52	44	39	38
135.0	31	29	25	22	21
140.0	20	19	18	17	16
145.0	17	17	16	16	15
150.0	16	16	15	15	15
155.0	15	15	14	14	14
160.0	15	15	14	14	13
165.0	14	14	14	13	13
170.0	13	13	13	12	12
175.0	11	11	11	10	10
180.0	8	8	8	8	8



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5-DEGREE
 ZONAL LUMEN SUMMARY

0- 5	52
5- 10	163
10- 15	285
15- 20	399
20- 25	528
25- 30	736
30- 35	961
35- 40	783
40- 45	405
45- 50	196
50- 55	131
55- 60	81
60- 65	58
65- 70	51
70- 75	47
75- 80	38
80- 85	29
85- 90	22
90- 95	25
95-100	31
100-105	33
105-110	33
110-115	35
115-120	37
120-125	35
125-130	26
130-135	14
135-140	8
140-145	6
145-150	5
150-155	4
155-160	3
160-165	2
165-170	2
170-175	1
175-180	0

10-DEGREE
 ZONAL LUMEN SUMMARY

0- 10	215
0- 20	899
0- 30	2163
0- 40	3908
0- 50	4509
0- 60	4720
0- 70	4829
0- 80	4914
0- 90	4965
0-100	5021
0-110	5088
0-120	5159
0-130	5220
0-140	5242
0-150	5253
0-160	5259
0-170	5263
0-180	5264



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

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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	118	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94
1	110	107	104	101	101	107	104	101	99	99	97	94	94	92	91	90	88	87	85
2	103	97	92	87	87	100	95	90	86	90	86	83	86	83	81	83	80	78	76
3	96	88	82	77	77	93	86	80	76	83	78	74	79	75	72	76	73	70	68
4	90	80	73	68	68	87	79	72	67	76	70	66	73	68	65	70	66	63	61
5	84	73	66	61	61	81	72	65	60	69	64	59	67	62	58	65	61	57	55
6	78	67	60	55	55	76	66	59	54	64	58	53	62	57	53	60	55	52	50
7	73	62	55	49	49	71	61	54	49	59	53	48	57	52	48	55	51	47	45
8	69	57	50	45	45	67	56	49	45	54	48	44	53	47	43	51	47	43	41
9	64	53	46	41	41	63	52	45	41	50	44	40	49	44	40	48	43	39	38
10	60	49	42	37	37	59	48	42	37	47	41	37	46	40	36	45	40	36	34

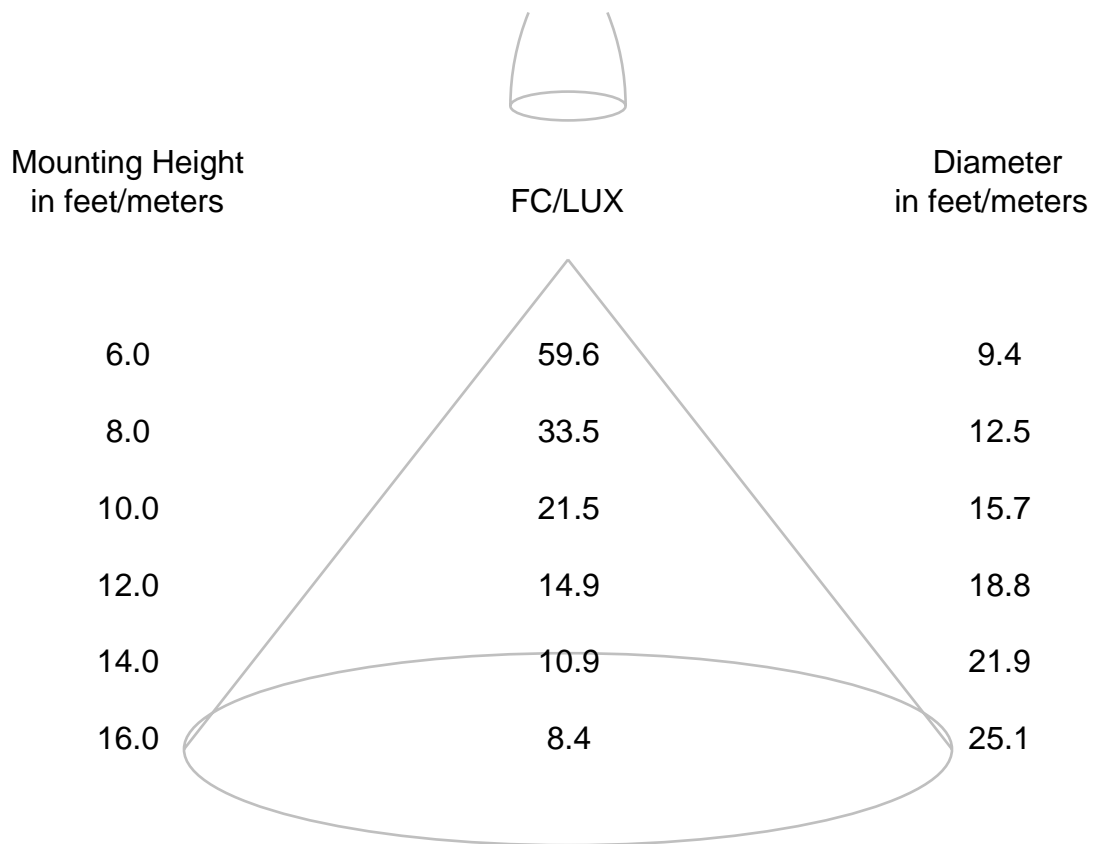
ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.

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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.

Note: The candela values used to generate this diagram were obtained by averaging the photometric data into a single plane.