

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

REPORT NUMBER: ITL87577-GONIOPHOTOMETRY

PAGE: 1 OF 9

ISSUE DATE: 06/14/16

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: FSLEDH3NB/120 - FSLEDH3NB/120/TL

LUMINAIRE: CAST BLACK PAINTED METAL HOUSING/FACEPLATE, CAST BLACK PAINTED METAL CIRCUIT BOARD MOUNTING BASE WITH UNFINISHED CIRCUIT BOARD MOUNTING SURFACE, 1 WHITE CIRCUIT BOARD WITH 3 LEDS, CLEAR FLAT GLASS LENS.

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

INPUT ELECTRICAL: 120.0 VOLTS, 3.07 WATTS, 0.0270 AMPS

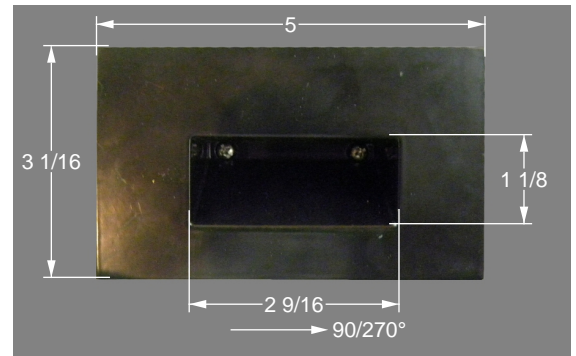
MOUNTING: RECESSED WALL

LED DRIVER: INTEGRAL TO CIRCUIT BOARD

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

TEST PROCEDURE: IESNA LM-79-08

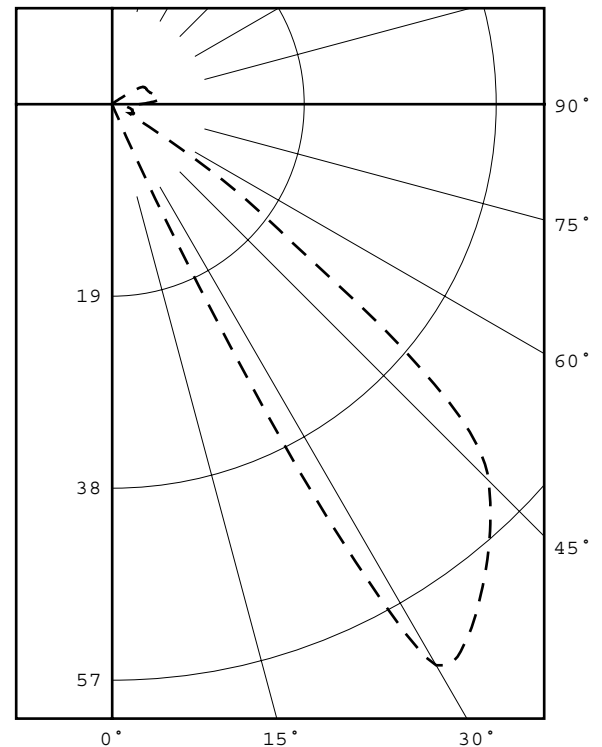
TEST DISTANCE = 20.0 FEET



CANDELA DISTRIBUTION

FLUX

	0.0	45.0	90.0	135.0	180.0	
0	0.0	0.0	0.0	0.0	0.0	
5	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0
25	14.6	0.2	0.0	0.0	0.0	1.6
35	62.4	33.7	0.0	0.0	0.0	9.3
45	52.7	52.3	0.0	0.0	0.0	12.8
55	14.9	39.9	0.0	0.0	0.0	8.8
65	2.3	7.9	0.0	0.0	0.0	2.5
75	2.0	0.5	0.0	0.0	0.0	0.6
85	1.6	0.4	0.0	0.0	0.0	0.4
90	2.7	0.6	0.0	0.0	0.0	
95	4.5	0.7	0.0	0.0	0.0	1.0
105	4.1	0.6	0.0	0.0	0.0	0.9
115	3.7	0.4	0.0	0.0	0.0	0.7
125	1.0	0.1	0.0	0.0	0.0	0.2
135	0.2	0.1	0.0	0.0	0.0	0.0
145	0.1	0.0	0.0	0.0	0.0	0.0
155	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
175	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



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	1.6	4.1
0- 40	10.9	28.1
0- 60	32.5	83.6
0- 90	36.0	92.5
90-120	2.7	6.9
90-130	2.9	7.4
90-150	2.9	7.5
90-180	2.9	7.5
0-180	38.9	100.0

EFFICACY = 12.7 lm/W

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG

BEAM ANGLE (50%) : 24.5 X N/A DEGREES

FIELD ANGLE (10%) : 34.1 X N/A DEGREES

Checked B. HYRE

Approved R. BEATTIE
Lighting Engineer



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

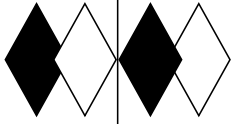
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LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	40843.	57904.	0.
55	9623.	36379.	0.
65	1371.	6803.	0.
75	1107.	388.	0.
85	855.	310.	0.



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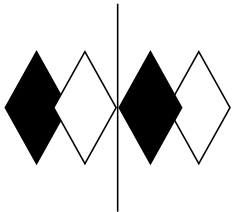
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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0	112.5	135.0	157.5
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17.5	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20.0	0.4	0.4	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
22.5	0.7	0.7	0.7	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.0	14.6	13.5	5.4	0.8	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27.5	46.3	45.5	40.9	19.3	0.9	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30.0	64.1	63.7	60.3	45.8	19.5	0.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
32.5	64.2	63.9	64.0	62.0	43.9	4.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35.0	62.4	62.1	62.1	61.8	59.8	33.7	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0
37.5	60.2	59.9	60.0	59.9	59.8	48.3	2.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
40.0	57.9	57.6	57.7	57.6	57.6	56.8	18.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0
42.5	55.4	55.2	55.2	55.1	55.2	55.0	32.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0
45.0	52.7	52.5	52.5	52.5	52.6	52.3	43.9	0.5	0.0	0.0	0.0	0.0	0.0	0.0
47.5	48.0	47.9	49.0	49.6	49.7	49.6	43.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0
50.0	37.3	37.7	41.8	45.4	46.7	46.6	41.2	11.1	0.0	0.0	0.0	0.0	0.0	0.0
52.5	22.3	22.5	27.3	36.8	42.8	43.4	38.4	11.5	0.1	0.0	0.0	0.0	0.0	0.0
55.0	14.9	15.1	16.9	22.4	35.9	39.9	35.4	10.8	0.1	0.0	0.0	0.0	0.0	0.0
57.5	6.6	6.8	9.5	14.4	22.4	35.4	32.4	10.0	0.1	0.0	0.0	0.0	0.0	0.0
60.0	2.7	2.7	3.2	6.6	13.4	26.6	29.0	9.0	0.1	0.0	0.0	0.0	0.0	0.0
62.5	1.9	1.9	1.9	2.5	6.4	14.1	25.2	7.9	0.2	0.0	0.0	0.0	0.0	0.0
65.0	2.3	2.2	2.0	1.8	2.0	7.9	19.0	6.7	0.3	0.0	0.0	0.0	0.0	0.0
67.5	2.3	2.3	2.3	2.1	1.3	1.8	9.5	5.6	0.5	0.0	0.0	0.0	0.0	0.0
70.0	2.1	2.1	2.1	2.1	1.4	0.6	4.9	4.3	0.4	0.0	0.0	0.0	0.0	0.0
72.5	2.1	2.0	2.0	1.9	1.2	0.6	0.8	1.5	0.3	0.0	0.0	0.0	0.0	0.0
75.0	2.0	1.9	1.9	1.8	1.1	0.5	0.4	0.3	0.2	0.0	0.0	0.0	0.0	0.0
77.5	1.8	1.8	1.8	1.6	1.0	0.4	0.3	0.3	0.2	0.0	0.0	0.0	0.0	0.0
80.0	1.5	1.5	1.5	1.4	0.9	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
82.5	1.5	1.5	1.5	1.3	0.9	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
85.0	1.6	1.6	1.5	1.4	1.0	0.4	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0
87.5	1.8	1.9	1.8	1.7	1.3	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
90.0	2.7	2.7	2.6	2.8	2.0	0.6	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0
92.5	3.7	3.8	3.9	4.0	3.4	0.7	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0
95.0	4.5	4.5	4.7	4.6	3.6	0.7	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
97.5	4.5	4.6	4.7	4.8	3.4	0.7	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0
100.0	4.7	4.5	4.5	4.7	3.2	0.6	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0
102.5	4.4	4.4	4.3	4.2	2.9	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
105.0	4.1	4.1	4.1	3.9	2.6	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
107.5	3.9	3.9	3.8	3.7	2.5	0.6	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
110.0	3.8	3.8	3.7	3.6	2.5	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
112.5	3.7	3.7	3.6	3.6	2.4	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
115.0	3.7	3.6	3.5	3.4	2.3	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
117.5	3.6	3.6	3.4	3.2	1.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
120.0	3.4	3.3	3.0	2.3	0.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
122.5	2.4	2.3	2.0	1.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
125.0	1.0	1.0	0.7	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
127.5	0.5	0.4	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
130.0	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
132.5	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
135.0	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
137.5	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5	0.1	0.1	0.1	0.1	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
157.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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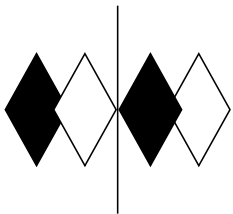
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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0	112.5	135.0	157.5
160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
167.5	0.0	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
177.5	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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PAGE: 5 OF 9

CANDELA DISTRIBUTION
 LATERAL ANGLE

	180.0
0.0	0.0
2.5	0.0
5.0	0.0
7.5	0.0
10.0	0.0
12.5	0.0
15.0	0.0
17.5	0.0
20.0	0.0
22.5	0.0
25.0	0.0
27.5	0.0
30.0	0.0
32.5	0.0
35.0	0.0
37.5	0.0
40.0	0.0
42.5	0.0
45.0	0.0
47.5	0.0
50.0	0.0
52.5	0.0
55.0	0.0
57.5	0.0
60.0	0.0
62.5	0.0
65.0	0.0
67.5	0.0
70.0	0.0
72.5	0.0
75.0	0.0
77.5	0.0
80.0	0.0
82.5	0.0
85.0	0.0
87.5	0.0
90.0	0.0
92.5	0.0
95.0	0.0
97.5	0.0
100.0	0.0
102.5	0.0
105.0	0.0
107.5	0.0
110.0	0.0
112.5	0.0
115.0	0.0
117.5	0.0
120.0	0.0
122.5	0.0
125.0	0.0
127.5	0.0
130.0	0.0
132.5	0.0
135.0	0.0
137.5	0.0
140.0	0.0
142.5	0.0
145.0	0.0
147.5	0.0
150.0	0.0
152.5	0.0
155.0	0.0
157.5	0.0



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PAGE: 6 OF 9

CANDELA DISTRIBUTION
LATERAL ANGLE

	180.0
160.0	0.0
162.5	0.0
165.0	0.0
167.5	0.0
170.0	0.0
172.5	0.0
175.0	0.0
177.5	0.0
180.0	0.0



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5-DEGREE
 ZONAL LUMEN SUMMARY

0- 5	0.0
5- 10	0.0
10- 15	0.0
15- 20	0.0
20- 25	0.1
25- 30	1.5
30- 35	3.9
35- 40	5.4
40- 45	6.3
45- 50	6.5
50- 55	5.4
55- 60	3.4
60- 65	1.7
65- 70	0.8
70- 75	0.3
75- 80	0.2
80- 85	0.2
85- 90	0.3
90- 95	0.5
95-100	0.6
100-105	0.5
105-110	0.4
110-115	0.4
115-120	0.3
120-125	0.2
125-130	0.0
130-135	0.0
135-140	0.0
140-145	0.0
145-150	0.0
150-155	0.0
155-160	0.0
160-165	0.0
165-170	0.0
170-175	0.0
175-180	0.0

10-DEGREE
 ZONAL LUMEN SUMMARY

0- 10	0.0
0- 20	0.0
0- 30	1.6
0- 40	10.9
0- 50	23.8
0- 60	32.5
0- 70	35.0
0- 80	35.6
0- 90	36.0
0-100	37.0
0-110	38.0
0-120	38.7
0-130	38.9
0-140	38.9
0-150	38.9
0-160	38.9
0-170	38.9
0-180	38.9



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REPORT NUMBER: ITL87577-GONIOPHOTOMETRY

PAGE: 8 OF 9

ISSUE DATE: 06/14/16

PREPARED FOR: RAB LIGHTING INC.

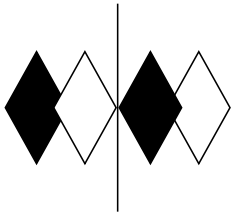
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	114	114	114	114	107	107	107	101	101	101	95	95	95	93
1	108	103	99	95	104	100	96	93	95	92	89	89	87	85	85	85	83	81	79
2	98	89	83	77	94	87	81	76	82	77	73	78	74	70	74	70	67	65	65
3	88	77	69	63	85	75	68	62	71	65	60	68	62	58	64	60	56	53	53
4	80	67	58	51	77	65	57	50	62	55	49	59	52	47	56	50	46	44	44
5	72	58	49	42	69	57	48	41	54	46	40	51	44	39	48	43	38	36	36
6	65	51	42	35	63	50	41	34	47	39	33	45	38	32	42	36	32	29	29
7	59	45	35	29	57	44	35	28	41	33	28	39	32	27	37	31	26	24	24
8	54	40	30	24	52	39	30	24	37	29	23	35	28	23	33	27	22	20	20
9	50	35	26	20	48	34	26	20	32	25	20	31	24	19	29	23	19	16	16
10	46	31	23	17	44	31	22	17	29	22	17	28	21	16	26	20	16	14	14

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.



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PAGE: 9 OF 9

ADDRESS: 170 LUDLOW AVE.
NORTHVALE, NJ 07647

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REPORT NUMBER: ITL87577-SPHERE
DATE: 06/20/16
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: FSLEDH3NB/120 - FSLEDH3NB/120/TL

ADDRESS: 170 LUDLOW AVE.
NORTHVALE, NJ 07647

LUMINAIRE: CAST BLACK PAINTED METAL HOUSING/FACEPLATE, CAST BLACK PAINTED METAL CIRCUIT BOARD MOUNTING BASE WITH UNFINISHED CIRCUIT BOARD MOUNTING SURFACE, 1 WHITE CIRCUIT BOARD WITH 3 LEDS, CLEAR FLAT GLASS LENS.

LAMP: THREE WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

DRIVER: INTEGRAL TO CIRCUIT BOARD

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

Calibration Due:

INSTRUMENTS: Associated Power Technologies APT5020 AC Power Source N/A
Yokogawa WT210 Digital Power Meter #4 04/07/17
Ocean Optics QE65000 Spectroradiometer 04/19/17
ITL 1.5m Diameter Integrating Sphere S15-2, 4PI Geometry 04/19/17

OBJECT OF TEST: Measure the Absolute Flux in lumens*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Index (CRIa,1-14), Chromaticity Coordinates (x,y; u',v'), ANSI C78.377 Duv, Total Radiant Flux*, Scotopic / Photopic Lumen Ratio, and electrical data including ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample.

PROCEDURE: The test sample was provided by the customer and had an unknown number of operating hours. The test sample was mounted inside the integrating sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 120VAC input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology.

RESULTS: (continued subsequent pages)

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Checked N WHITE
Approved P O'CONNOR
Sphere Lab Supervisor



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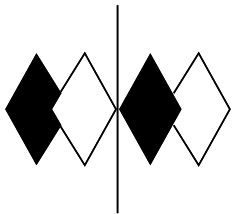
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	38.9 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3766
Chromaticity Ordinate y	0.3767
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2226
Chromaticity Ordinate v'	0.5010
Correlated Color Temp CCT (K)	4106
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	119 *
Scotopic / Photopic Lumen Ratio	1.735
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.027
Input Power (Watts)	3.07
Input Power Factor (%)	94.8
Input Current THD (%)	31.4
Input Voltage THD (%)	0.3
EFFICACY (lumens/Watt)	12.7

COLOR RENDERING INDICES		CRI
Ra (Average 1-8)		82
R1	Light greyish red	80
R2	Dark greyish yellow	87
R3	Strong yellowish green	93
R4	Moderate yellowish green	82
R5	Light bluish green	81
R6	Light blue	83
R7	Light violet	86
R8	Light reddish purple	65
R9	Strong red	6
R10	Strong yellow	70
R11	Strong green	81
R12	Strong blue	65
R13	Light yellowish pink (skin)	81
R14	Moderate olive green (leaf)	96

*NOTE: The total lumen output shown on this report was obtained from photometric test ITL87577-GONIOPHOTOMETRY



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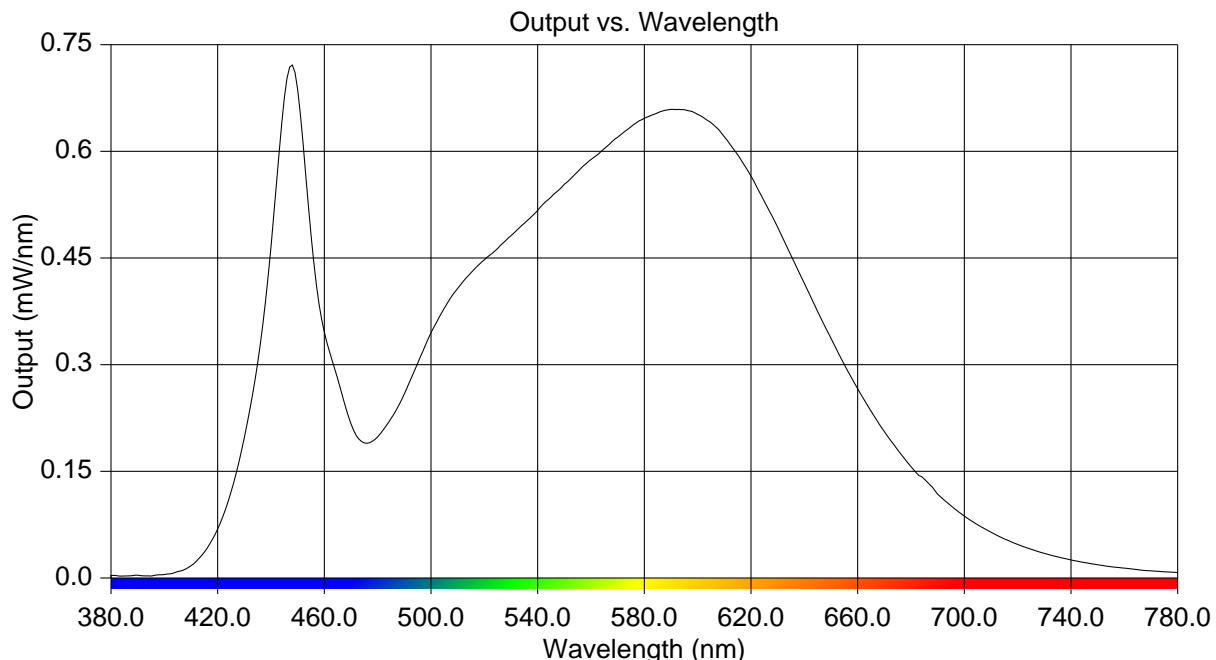
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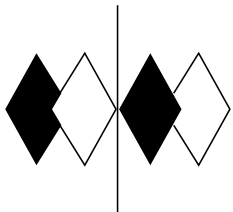
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.003	515	0.429	650	0.337
385	0.003	520	0.447	655	0.300
390	0.004	525	0.463	660	0.266
395	0.003	530	0.481	665	0.235
400	0.005	535	0.499	670	0.206
405	0.009	540	0.517	675	0.180
410	0.017	545	0.536	680	0.157
415	0.036	550	0.554	685	0.139
420	0.069	555	0.571	690	0.118
425	0.121	560	0.588	695	0.102
430	0.197	565	0.604	700	0.087
435	0.302	570	0.620	705	0.075
440	0.466	575	0.635	710	0.064
445	0.675	580	0.646	715	0.055
450	0.687	585	0.654	720	0.047
455	0.483	590	0.659	725	0.041
460	0.346	595	0.659	730	0.035
465	0.280	600	0.652	735	0.030
470	0.217	605	0.640	740	0.025
475	0.190	610	0.620	745	0.022
480	0.198	615	0.595	750	0.019
485	0.224	620	0.565	755	0.016
490	0.259	625	0.530	760	0.014
495	0.302	630	0.493	765	0.012
500	0.345	635	0.454	770	0.010
505	0.380	640	0.414	775	0.009
510	0.407	645	0.375	780	0.008





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CIE Chromaticity Diagram

