

itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



NVLAP LAB CODE: 200925-0

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: ITL87586-GONIOPHOTOMETRY

PAGE: 1 OF 9

ISSUE DATE: 06/16/16

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: FSLEDV3NS/120 - FSLEDV3NS/120/TL

LUMINAIRE: CAST SILVER PAINTED METAL HOUSING/FACEPLATE, CAST SILVER 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, 3.09 WATTS, 0.0271 AMPS

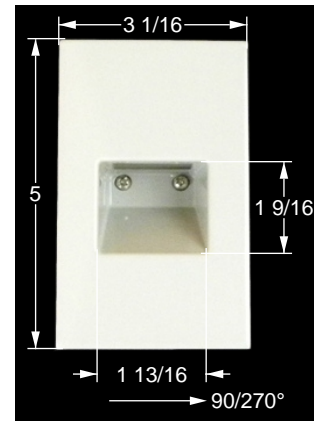
MOUNTING: RECESSED WALL

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



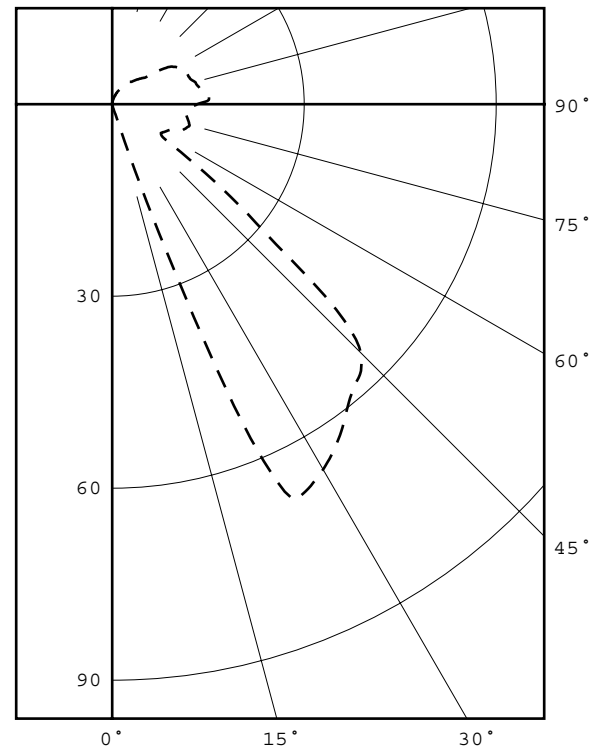
CANDELA DISTRIBUTION

FLUX

	0.0	45.0	90.0	135.0	180.0	
0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.1	0.1	0.0	0.0	0.0	0.0
15	1.0	0.4	0.0	0.0	0.0	0.1
25	68.1	2.1	0.0	0.0	0.0	5.6
35	62.4	48.6	0.0	0.0	0.0	11.0
45	54.9	40.9	0.0	0.0	0.0	11.9
55	13.1	31.4	0.0	0.0	0.0	6.9
65	9.7	6.9	0.0	0.0	0.0	3.2
75	12.5	5.9	0.0	0.0	0.0	3.3
85	11.8	6.3	0.0	0.0	0.0	3.5
90	13.3	6.5	0.0	0.0	0.0	
95	14.9	6.4	0.0	0.0	0.0	3.8
105	13.4	6.1	0.0	0.0	0.0	3.4
115	12.5	5.2	0.0	0.0	0.0	2.9
125	9.5	4.1	0.0	0.0	0.0	2.0
135	5.4	3.1	0.0	0.0	0.0	1.2
145	3.7	2.2	0.0	0.0	0.0	0.7
155	2.3	1.4	0.0	0.0	0.0	0.3
165	1.2	0.7	0.0	0.0	0.0	0.1
175	0.3	0.2	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	5.7	9.6
0- 40	16.8	28.0
0- 60	35.6	59.5
0- 90	45.6	76.1
90-120	10.1	16.9
90-130	12.1	20.2
90-150	13.9	23.2
90-180	14.3	23.9
0-180	59.9	100.0



LEGEND:
0-deg -----
90-deg _____
180-deg - . - . - .

EFFICACY = 19.4 lm/W
CIE TYPE - SEMI-DIRECT
PLANE : 0-DEG 90-DEG
BEAM ANGLE (50%) : 28.6 X N/A DEGREES
FIELD ANGLE (10%) : 110.4 X N/A DEGREES

Checked B. HYRE
Approved R. BEATTIE
Lighting Engineer



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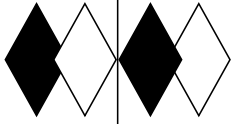
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LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	42548.	45282.	0.
55	8828.	30419.	0.
65	5783.	5942.	0.
75	7176.	4813.	0.
85	6532.	4883.	0.



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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	0.1	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
7.5	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10.0	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
12.5	0.6	0.6	0.6	0.5	0.4	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
15.0	1.0	1.0	0.9	0.8	0.6	0.4	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
17.5	1.6	1.6	1.4	1.2	0.9	0.6	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0
20.0	21.6	19.4	8.9	2.2	1.4	0.9	0.5	0.3	0.1	0.0	0.0	0.0	0.0	0.0
22.5	56.5	55.4	48.2	34.6	3.9	1.3	0.7	0.3	0.2	0.0	0.0	0.0	0.0	0.0
25.0	68.1	68.3	67.8	61.3	39.2	2.1	0.9	0.5	0.2	0.0	0.0	0.0	0.0	0.0
27.5	67.2	67.3	67.6	67.6	63.8	15.2	1.2	0.6	0.2	0.0	0.0	0.0	0.0	0.0
30.0	65.9	66.0	66.3	66.3	68.6	32.9	1.9	0.7	0.3	0.0	0.0	0.0	0.0	0.0
32.5	64.3	64.4	64.6	64.7	66.8	47.5	10.8	0.8	0.3	0.1	0.0	0.0	0.0	0.0
35.0	62.4	62.4	62.9	63.0	65.0	48.6	21.3	0.9	0.4	0.1	0.0	0.0	0.0	0.0
37.5	60.2	60.3	60.7	60.9	62.7	47.5	22.8	1.1	0.4	0.1	0.0	0.0	0.0	0.0
40.0	58.4	58.3	58.5	58.6	60.3	45.5	23.5	1.2	0.4	0.1	0.0	0.0	0.0	0.0
42.5	57.3	57.2	56.8	56.3	57.7	43.2	23.2	1.5	0.5	0.1	0.0	0.0	0.0	0.0
45.0	54.9	54.8	55.3	54.6	54.9	40.9	22.0	1.8	0.6	0.1	0.0	0.0	0.0	0.0
47.5	47.5	47.6	50.2	52.4	52.0	38.5	20.7	2.2	0.6	0.1	0.0	0.0	0.0	0.0
50.0	31.1	31.8	37.5	46.1	49.1	36.2	19.5	3.0	0.7	0.1	0.0	0.0	0.0	0.0
52.5	21.7	21.9	24.0	31.9	43.7	33.9	18.4	3.3	0.7	0.1	0.0	0.0	0.0	0.0
55.0	13.1	13.4	16.4	20.8	31.0	31.4	17.3	3.3	0.8	0.1	0.0	0.0	0.0	0.0
57.5	9.2	9.2	9.8	13.1	19.1	26.7	16.2	3.2	0.9	0.2	0.0	0.0	0.0	0.0
60.0	8.9	8.8	8.7	8.5	12.2	19.2	14.8	3.1	1.0	0.2	0.0	0.0	0.0	0.0
62.5	9.3	9.2	9.0	8.2	7.2	13.7	12.6	3.1	1.0	0.2	0.0	0.0	0.0	0.0
65.0	9.7	9.6	9.4	8.5	6.8	6.9	8.0	3.1	1.1	0.2	0.0	0.0	0.0	0.0
67.5	10.5	10.3	9.9	8.8	7.0	5.4	4.8	3.0	1.1	0.2	0.0	0.0	0.0	0.0
70.0	11.7	11.5	10.8	9.3	7.2	5.6	4.4	2.9	1.2	0.2	0.0	0.0	0.0	0.0
72.5	12.2	12.0	11.3	9.9	7.5	5.7	4.4	2.9	1.2	0.2	0.0	0.0	0.0	0.0
75.0	12.5	12.4	11.7	10.1	7.7	5.9	4.5	2.8	1.3	0.2	0.0	0.0	0.0	0.0
77.5	12.2	12.2	11.6	10.0	7.8	6.0	4.5	2.8	1.3	0.2	0.0	0.0	0.0	0.0
80.0	11.9	11.9	11.4	9.8	7.9	6.1	4.6	2.8	1.3	0.3	0.0	0.0	0.0	0.0
82.5	11.7	11.7	11.3	9.8	8.0	6.2	4.6	2.9	1.3	0.3	0.0	0.0	0.0	0.0
85.0	11.8	11.7	11.3	10.0	8.3	6.3	4.7	2.9	1.4	0.3	0.0	0.0	0.0	0.0
87.5	12.3	12.2	11.8	10.3	8.5	6.6	4.8	2.9	1.4	0.3	0.0	0.0	0.0	0.0
90.0	13.3	13.3	12.9	10.5	8.3	6.5	4.7	2.9	1.4	0.3	0.0	0.0	0.0	0.0
92.5	15.1	15.0	14.2	11.4	8.2	6.4	4.7	2.9	1.4	0.3	0.0	0.0	0.0	0.0
95.0	14.9	14.9	14.1	11.0	8.1	6.4	4.7	2.9	1.4	0.3	0.0	0.0	0.0	0.0
97.5	14.3	14.2	13.7	10.6	7.9	6.4	4.6	2.9	1.4	0.3	0.0	0.0	0.0	0.0
100.0	14.0	13.9	13.4	10.5	7.8	6.3	4.5	2.8	1.3	0.3	0.0	0.0	0.0	0.0
102.5	13.6	13.6	13.2	10.2	7.7	6.3	4.4	2.7	1.3	0.3	0.0	0.0	0.0	0.0
105.0	13.4	13.4	12.8	10.0	7.5	6.1	4.2	2.6	1.3	0.3	0.0	0.0	0.0	0.0
107.5	12.9	13.0	12.5	9.7	7.3	5.9	4.1	2.5	1.2	0.2	0.0	0.0	0.0	0.0
110.0	12.7	12.8	12.2	9.6	7.2	5.8	3.9	2.4	1.2	0.2	0.0	0.0	0.0	0.0
112.5	12.6	12.6	12.0	9.4	7.0	5.5	3.8	2.3	1.1	0.2	0.0	0.0	0.0	0.0
115.0	12.5	12.5	11.8	9.2	6.8	5.2	3.6	2.2	1.1	0.2	0.0	0.0	0.0	0.0
117.5	12.2	12.1	11.6	8.8	6.4	4.9	3.5	2.2	1.1	0.2	0.0	0.0	0.0	0.0
120.0	11.6	11.6	11.1	8.2	5.9	4.6	3.3	2.1	1.0	0.2	0.0	0.0	0.0	0.0
122.5	10.9	10.9	10.2	7.5	5.6	4.4	3.1	2.0	1.0	0.2	0.0	0.0	0.0	0.0
125.0	9.5	9.4	8.3	6.3	5.2	4.1	3.0	1.9	0.9	0.2	0.0	0.0	0.0	0.0
127.5	7.2	7.1	6.5	5.8	4.9	3.9	2.8	1.8	0.9	0.2	0.0	0.0	0.0	0.0
130.0	6.4	6.3	6.0	5.4	4.6	3.6	2.6	1.7	0.8	0.2	0.0	0.0	0.0	0.0
132.5	5.9	5.8	5.5	5.0	4.2	3.4	2.5	1.6	0.8	0.2	0.0	0.0	0.0	0.0
135.0	5.4	5.3	5.1	4.6	3.9	3.1	2.3	1.5	0.7	0.1	0.0	0.0	0.0	0.0
137.5	4.9	4.9	4.6	4.2	3.6	2.9	2.1	1.4	0.7	0.1	0.0	0.0	0.0	0.0
140.0	4.5	4.5	4.3	3.9	3.3	2.7	2.0	1.3	0.7	0.1	0.0	0.0	0.0	0.0
142.5	4.1	4.1	3.9	3.5	3.0	2.4	1.8	1.2	0.6	0.1	0.0	0.0	0.0	0.0
145.0	3.7	3.7	3.5	3.2	2.7	2.2	1.7	1.1	0.6	0.1	0.0	0.0	0.0	0.0
147.5	3.3	3.3	3.2	2.9	2.5	2.0	1.5	1.0	0.5	0.1	0.0	0.0	0.0	0.0
150.0	3.0	2.9	2.8	2.6	2.2	1.8	1.4	0.9	0.5	0.1	0.0	0.0	0.0	0.0
152.5	2.6	2.6	2.5	2.3	2.0	1.6	1.2	0.8	0.4	0.1	0.0	0.0	0.0	0.0
155.0	2.3	2.3	2.2	2.0	1.7	1.4	1.1	0.7	0.4	0.1	0.0	0.0	0.0	0.0
157.5	2.0	2.0	1.9	1.7	1.5	1.3	0.9	0.6	0.3	0.1	0.0	0.0	0.0	0.0



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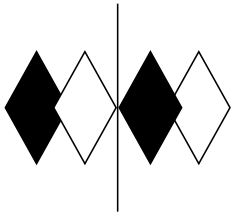
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CANDELA DISTRIBUTION
LATERAL ANGLE

	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	1.7	1.7	1.6	1.5	1.3	1.1	0.8	0.6	0.3	0.1	0.0	0.0	0.0	0.0
162.5	1.4	1.4	1.4	1.2	1.1	0.9	0.7	0.5	0.2	0.0	0.0	0.0	0.0	0.0
165.0	1.2	1.1	1.1	1.0	0.9	0.7	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0
167.5	1.0	0.9	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0
170.0	0.7	0.7	0.7	0.6	0.6	0.5	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0
172.5	0.5	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0
175.0	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
177.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	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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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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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	0.1
20- 25	1.7
25- 30	3.9
30- 35	5.2
35- 40	5.9
40- 45	6.1
45- 50	5.8
50- 55	4.3
55- 60	2.6
60- 65	1.7
65- 70	1.5
70- 75	1.6
75- 80	1.7
80- 85	1.7
85- 90	1.8
90- 95	1.9
95-100	1.9
100-105	1.8
105-110	1.6
110-115	1.5
115-120	1.4
120-125	1.1
125-130	0.8
130-135	0.7
135-140	0.5
140-145	0.4
145-150	0.3
150-155	0.2
155-160	0.1
160-165	0.1
165-170	0.0
170-175	0.0
175-180	0.0

10-DEGREE
 ZONAL LUMEN SUMMARY

0- 10	0.0
0- 20	0.1
0- 30	5.7
0- 40	16.8
0- 50	28.7
0- 60	35.6
0- 70	38.8
0- 80	42.1
0- 90	45.6
0-100	49.4
0-110	52.8
0-120	55.6
0-130	57.6
0-140	58.8
0-150	59.4
0-160	59.8
0-170	59.9
0-180	59.9



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REPORT NUMBER: ITL87586-GONIOPHOTOMETRY

PAGE: 8 OF 9

ISSUE DATE: 06/16/16

PREPARED FOR: RAB LIGHTING INC.

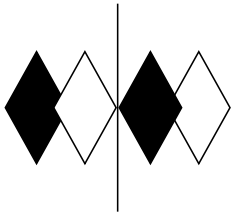
COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	113	113	113	113	113	108	108	108	108	98	98	98	89	89	89	80	80	80	76
1	102	96	92	87	87	96	92	87	84	83	80	77	75	72	70	68	66	64	60
2	92	83	76	70	70	87	79	73	67	72	67	62	65	61	57	59	55	53	49
3	83	72	64	57	57	79	69	61	55	63	56	51	57	52	47	51	47	44	40
4	76	64	55	48	48	72	61	52	46	55	48	43	50	44	40	45	41	37	34
5	69	56	47	40	40	65	53	45	39	49	41	36	44	38	34	40	35	31	28
6	63	50	40	34	34	60	47	39	33	43	36	31	39	33	28	35	30	26	24
7	58	44	35	29	29	55	42	34	28	38	31	26	35	29	24	32	27	23	20
8	53	39	31	25	25	50	38	30	24	34	27	22	31	25	21	28	23	19	17
9	49	35	27	21	21	47	34	26	21	31	24	19	28	22	18	26	21	17	15
10	46	32	24	19	19	43	31	23	18	28	21	17	26	20	16	23	18	15	13

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: ITL87586-SPHERE
DATE: 06/21/16
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: FSLEDV3NS/120 - FSLEDV3NS/120/TL

ADDRESS: 170 LUDLOW AVE.
NORTHVALE, NJ 07647

LUMINAIRE: CAST SILVER PAINTED METAL HOUSING/FACEPLATE, CAST SILVER 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.

INSTRUMENTS:	Associated Power Technologies APT5020 AC Power Source	Calibration Due:
	Yokogawa WT210 Digital Power Meter #4	N/A
	Ocean Optics QE65000 Spectroradiometer	04/07/17
	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	<i>N WHITE</i>
Approved	<i>P O'CONNOR</i> Sphere Lab Supervisor



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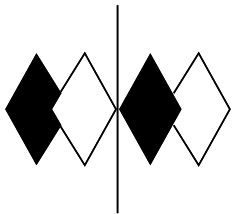
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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	59.9 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3689
Chromaticity Ordinate y	0.3715
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2196
Chromaticity Ordinate v'	0.4975
Correlated Color Temp CCT (K)	4292
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	184 *
Scotopic / Photopic Lumen Ratio	1.799
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.027
Input Power (Watts)	3.09
Input Power Factor (%)	95.4
Input Current THD (%)	31.3
Input Voltage THD (%)	0.3
EFFICACY (lumens/Watt)	19.4

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	82
R1 Light greyish red	80
R2 Dark greyish yellow	88
R3 Strong yellowish green	94
R4 Moderate yellowish green	82
R5 Light bluish green	81
R6 Light blue	84
R7 Light violet	86
R8 Light reddish purple	65
R9 Strong red	6
R10 Strong yellow	71
R11 Strong green	80
R12 Strong blue	63
R13 Light yellowish pink (skin)	82
R14 Moderate olive green (leaf)	97

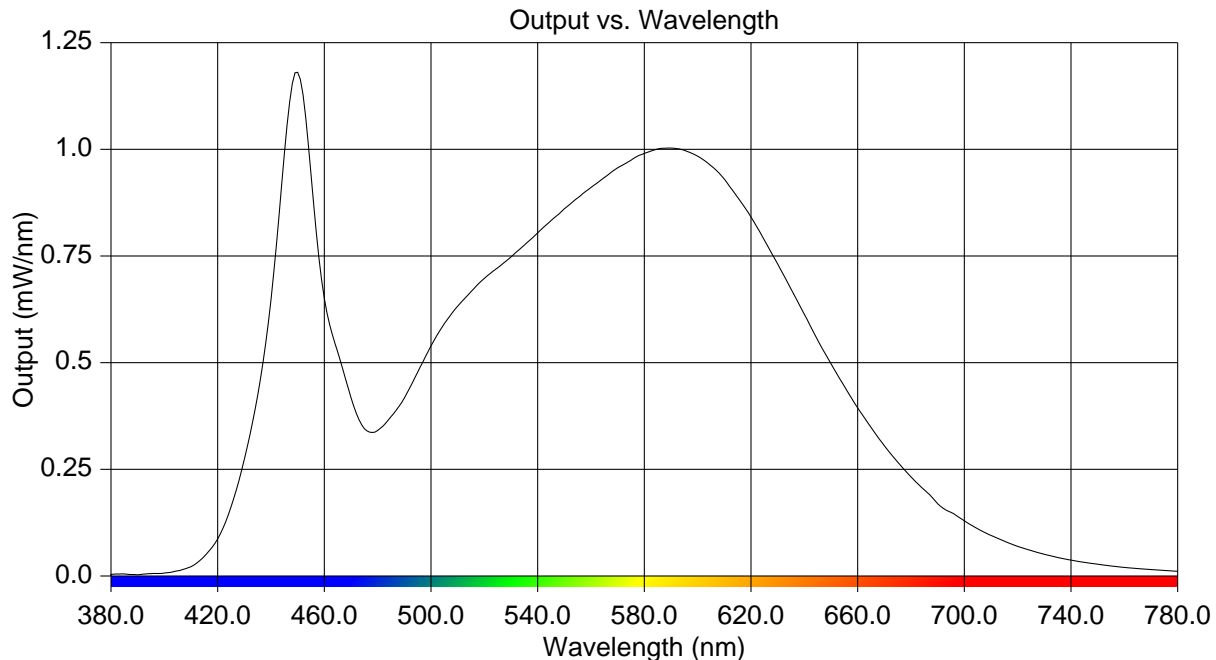
*NOTE: The total lumen output shown on this report was obtained from photometric test ITL87586-GONIOPHOTOMETRY

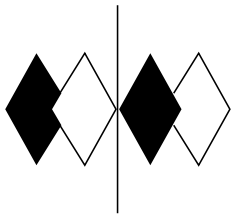


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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.004	515	0.666	650	0.497
385	0.005	520	0.697	655	0.445
390	0.003	525	0.722	660	0.394
395	0.005	530	0.748	665	0.348
400	0.007	535	0.775	670	0.305
405	0.012	540	0.804	675	0.267
410	0.022	545	0.833	680	0.232
415	0.046	550	0.861	685	0.202
420	0.087	555	0.886	690	0.169
425	0.162	560	0.911	695	0.149
430	0.273	565	0.934	700	0.129
435	0.423	570	0.957	705	0.111
440	0.647	575	0.974	710	0.095
445	0.989	580	0.990	715	0.082
450	1.180	585	1.001	720	0.069
455	0.942	590	1.003	725	0.060
460	0.650	595	0.998	730	0.051
465	0.525	600	0.984	735	0.043
470	0.418	605	0.962	740	0.037
475	0.345	610	0.930	745	0.032
480	0.341	615	0.887	750	0.028
485	0.373	620	0.841	755	0.023
490	0.417	625	0.787	760	0.020
495	0.478	630	0.731	765	0.017
500	0.539	635	0.673	770	0.015
505	0.592	640	0.613	775	0.013
510	0.632	645	0.553	780	0.011





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CIE Chromaticity Diagram

