

REPORT NUMBER: ITL90571-GONIOPHOTOMETRY

PAGE: 1 OF 7

ISSUE DATE: 06/21/18

PREPARED FOR: PACE ELECTRONICS PRODUCTS

ADDRESS: 34 FOLEY DRIVE
SODUS, NY 14551

CATALOG NUMBER: PAC0435W

LUMINAIRE: MOLDED WHITE PLASTIC HOUSING WITH 2 MOLDED WHITE PLASTIC SWIVEL HEAD ASSEMBLIES, EACH HEAD ASSEMBLY CONSISTS OF: ONE CIRCUIT BOARD WITH 8 LEDS, MOLDED WHITE PLASTIC REFLECTOR, CLEAR PRISMATIC PLASTIC LENS. BOTH SWIVEL HEAD ASSEMBLIES WERE ILLUMINATED FOR THIS TEST. ONLY ONE LIGHT HEAD WAS MEASURED FOR LIGHT OUTPUT. LENS PRISMS IN.

LAMPS: EIGHT WHITE LIGHT EMITTING DIODES (LEDS) EACH WITH CLEAR HEMISPHERICAL INTEGRAL LENS, VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 3.60 VOLTS, 1.33 WATTS, 0.369 AMPS

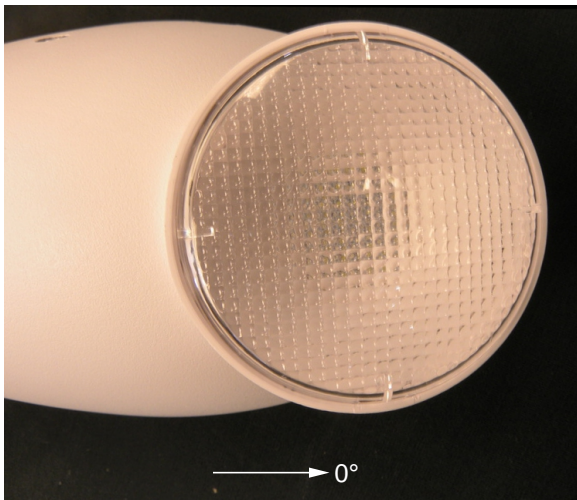
MOUNTING: SURFACE

LED DRIVER: PACE ELECTRONICS PROPRIETARY

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT CLIENT REQUESTED INPUT VOLTAGE (3.6VDC) TO THE DRIVER. DRIVER INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 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 *R BERGIN*

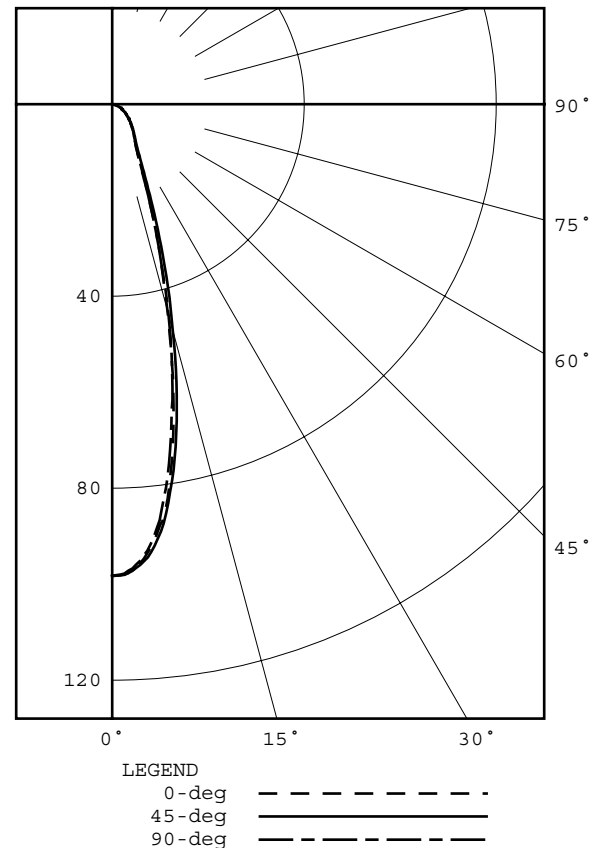
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CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	98.3	98.3	98.3	98.3	98.3	
5	92.7	93.1	93.6	92.7	92.0	8.3
15	44.4	46.9	48.8	46.9	45.3	12.8
25	13.7	14.7	15.6	14.8	14.1	7.2
35	8.0	8.0	8.2	7.9	7.8	5.1
45	5.5	5.3	5.4	5.5	5.3	4.2
55	3.6	3.7	3.5	3.6	3.5	3.2
65	2.3	2.4	2.2	2.3	2.1	2.2
75	0.7	0.7	0.6	0.6	0.6	0.8
85	0.2	0.2	0.2	0.2	0.2	0.3
90	0.1	0.1	0.1	0.1	0.1	
95	0.1	0.1	0.0	0.0	0.1	0.1
105	0.0	0.0	0.0	0.0	0.0	0.0
115	0.0	0.0	0.0	0.0	0.0	0.0
125	0.0	0.0	0.0	0.0	0.0	0.0
135	0.0	0.0	0.0	0.0	0.0	0.0
145	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
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 ZONE	SUMMARY LUMENS	%FIXT
0- 30	28.3	64.4
0- 40	33.3	76.0
0- 60	40.7	92.7
0- 90	43.8	99.9
90-120	0.1	0.1
90-130	0.1	0.1
90-150	0.1	0.1
90-180	0.1	0.1
0-180	43.9	100.0

EFFICACY = 33.0 lm/W
CIE TYPE - DIRECT
PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 0.47 0.48
BEAM ANGLE (50%) : 28.2 X 28.4 DEGREES
FIELD ANGLE (10%) : 60.3 X 59.6 DEGREES





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CANDELA DISTRIBUTION
 LATERAL ANGLE

0.0	0.0	22.5	45.0	67.5	90.0
0.0	98.3	98.3	98.3	98.3	98.3
0.5	98.2	98.2	98.2	98.2	98.1
1.0	98.1	98.1	98.2	98.2	98.0
1.5	98.1	98.0	98.0	97.8	97.8
2.0	97.7	97.6	97.7	97.5	97.2
2.5	97.2	97.2	97.3	97.0	96.8
3.0	96.5	96.7	96.7	96.5	96.0
3.5	95.8	96.0	96.1	95.8	95.3
4.0	94.9	95.2	95.4	94.9	94.3
4.5	93.8	94.3	94.7	93.9	93.3
5.0	92.7	93.1	93.6	92.7	92.0
5.5	91.4	92.0	92.4	91.5	90.6
6.0	89.8	90.6	91.0	90.0	88.9
6.5	88.2	89.2	89.6	88.2	87.2
7.0	87.2	87.7	88.0	86.4	84.9
7.5	85.2	85.9	86.0	84.3	82.7
8.0	83.0	83.7	84.0	82.3	80.6
8.5	80.5	81.4	81.7	80.5	78.3
9.0	77.8	79.0	79.6	78.2	75.8
9.5	75.3	76.6	77.4	75.8	73.1
10.0	72.7	74.1	75.0	73.2	70.5
11.0	67.0	68.8	69.9	68.2	65.0
11.5	64.0	66.1	67.3	65.5	62.9
12.0	61.2	63.2	64.6	62.8	60.3
12.5	58.4	60.8	62.1	59.9	57.8
13.0	55.4	58.1	59.4	57.3	55.2
13.5	52.5	55.3	56.8	54.6	52.8
14.0	49.7	52.5	54.1	51.9	50.2
14.5	47.0	49.7	51.4	49.4	47.7
15.0	44.4	46.9	48.8	46.9	45.3
16.0	39.4	41.6	44.2	42.0	40.3
17.0	35.2	36.9	39.8	37.4	35.4
18.0	31.4	32.8	35.3	33.2	31.4
19.0	27.9	29.4	31.4	29.3	27.8
20.0	24.5	26.3	27.7	25.9	24.5
22.5	18.0	19.3	20.4	19.2	18.3
25.0	13.7	14.7	15.6	14.8	14.1
27.5	11.3	11.7	12.5	12.0	11.4
30.0	9.9	10.0	10.4	10.0	9.7
32.5	8.6	8.9	9.1	8.8	8.8
35.0	8.0	8.0	8.2	7.9	7.8
37.5	7.2	7.3	7.4	7.2	7.2
40.0	6.6	6.7	6.7	6.5	6.4
42.5	5.9	6.0	6.0	6.0	5.8
45.0	5.5	5.3	5.4	5.5	5.3
47.5	4.8	4.8	4.7	4.9	4.9
50.0	4.7	4.3	4.3	4.2	4.3
52.5	3.9	4.0	3.8	3.8	3.9
55.0	3.6	3.7	3.5	3.6	3.5
57.5	3.1	3.2	3.2	3.3	3.1
60.0	3.0	2.7	2.7	2.7	2.5
62.5	2.6	2.6	2.4	2.3	2.3
65.0	2.3	2.4	2.2	2.3	2.1
67.5	1.8	2.1	2.0	1.9	1.8
70.0	1.2	1.4	1.4	1.5	1.3
72.5	0.8	0.8	0.9	0.8	0.9
75.0	0.7	0.7	0.6	0.6	0.6
77.5	0.5	0.5	0.5	0.5	0.5
80.0	0.5	0.4	0.4	0.4	0.4
82.5	0.4	0.3	0.3	0.3	0.3



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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
85.0	0.2	0.2	0.2	0.2	0.2
87.5	0.2	0.2	0.2	0.1	0.2
90.0	0.1	0.1	0.1	0.1	0.1
92.5	0.1	0.1	0.1	0.1	0.1
95.0	0.1	0.1	0.0	0.0	0.1
97.5	0.0	0.0	0.0	0.0	0.0
100.0	0.0	0.0	0.0	0.0	0.0
102.5	0.0	0.0	0.0	0.0	0.0
105.0	0.0	0.0	0.0	0.0	0.0
107.5	0.0	0.0	0.0	0.0	0.0
110.0	0.0	0.0	0.0	0.0	0.0
112.5	0.0	0.0	0.0	0.0	0.0
115.0	0.0	0.0	0.0	0.0	0.0
117.5	0.0	0.0	0.0	0.0	0.0
120.0	0.0	0.0	0.0	0.0	0.0
122.5	0.0	0.0	0.0	0.0	0.0
125.0	0.0	0.0	0.0	0.0	0.0
127.5	0.0	0.0	0.0	0.0	0.0
130.0	0.0	0.0	0.0	0.0	0.0
132.5	0.0	0.0	0.0	0.0	0.0
135.0	0.0	0.0	0.0	0.0	0.0
137.5	0.0	0.0	0.0	0.0	0.0
140.0	0.0	0.0	0.0	0.0	0.0
142.5	0.0	0.0	0.0	0.0	0.0
145.0	0.0	0.0	0.0	0.0	0.0
147.5	0.0	0.0	0.0	0.0	0.0
150.0	0.0	0.0	0.0	0.0	0.0
152.5	0.0	0.0	0.0	0.0	0.0
155.0	0.0	0.0	0.0	0.0	0.0
157.5	0.0	0.0	0.0	0.0	0.0
160.0	0.0	0.0	0.0	0.0	0.0
162.5	0.0	0.0	0.0	0.0	0.0
165.0	0.0	0.0	0.0	0.0	0.0
167.5	0.0	0.0	0.0	0.0	0.0
170.0	0.0	0.0	0.0	0.0	0.0
172.5	0.0	0.0	0.0	0.0	0.0
175.0	0.0	0.0	0.0	0.0	0.0
177.5	0.0	0.0	0.0	0.0	0.0
180.0	0.0	0.0	0.0	0.0	0.0



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5-DEGREE
 ZONAL LUMEN SUMMARY

0- 5	2.3
5- 10	6.0
10- 15	7.0
15- 20	5.8
20- 25	4.1
25- 30	3.1
30- 35	2.6
35- 40	2.4
40- 45	2.2
45- 50	2.0
50- 55	1.7
55- 60	1.5
60- 65	1.2
65- 70	1.0
70- 75	0.5
75- 80	0.3
80- 85	0.2
85- 90	0.1
90- 95	0.0
95-100	0.0
100-105	0.0
105-110	0.0
110-115	0.0
115-120	0.0
120-125	0.0
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	8.3
0- 20	21.1
0- 30	28.3
0- 40	33.3
0- 50	37.5
0- 60	40.7
0- 70	42.8
0- 80	43.6
0- 90	43.8
0-100	43.9
0-110	43.9
0-120	43.9
0-130	43.9
0-140	43.9
0-150	43.9
0-160	43.9
0-170	43.9
0-180	43.9



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	119	119	119	119	116	116	116	116	111	111	111	111	106	106	106	102	102	102	100
1	113	109	106	104	110	107	105	102	103	101	99	99	99	98	96	96	94	93	91
2	106	101	96	92	104	99	95	91	96	92	89	92	90	87	90	87	85	84	84
3	100	93	88	83	98	92	87	82	89	85	81	86	83	80	84	81	79	77	77
4	95	87	81	76	93	85	80	76	83	78	75	81	77	74	79	76	73	71	71
5	90	81	75	70	88	80	74	70	78	73	69	77	72	69	75	71	68	66	66
6	86	76	70	65	84	76	70	65	74	69	65	73	68	64	71	67	64	62	62
7	82	72	66	62	80	71	66	61	70	65	61	69	64	61	68	64	60	59	59
8	78	68	62	58	77	68	62	58	67	61	58	66	61	57	65	60	57	56	56
9	75	65	59	55	74	65	59	55	64	58	55	63	58	55	62	58	54	53	53
10	72	62	56	53	71	62	56	52	61	56	52	60	55	52	59	55	52	51	51

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.

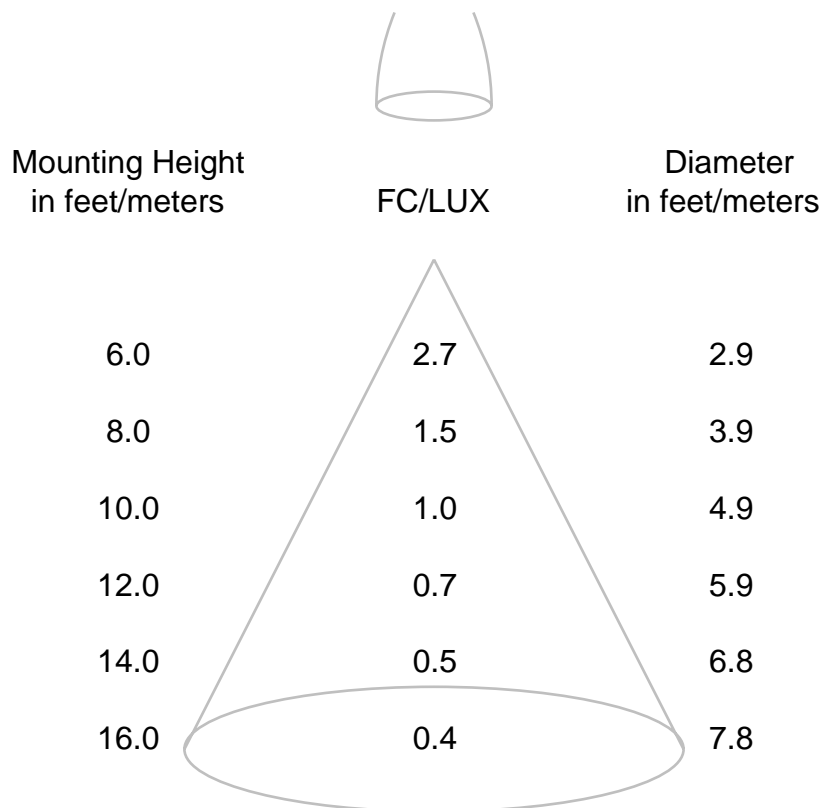
NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.

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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.