

itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
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: ITL88304-GONIOPHOTOMETRY

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ISSUE DATE: 09/26/16

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: MA-LED-x45/x45-NFL/NFL-12-C

LUMINAIRE: MACHINED BLACK PAINTED METAL WALL MOUNTING BRACKET AND HOUSING

WITH 2 DISTINCT OPTICAL COMPARTMENTS, EACH OPTICAL COMPARTMENT

CONSISTS OF: DIFFUSE METAL CIRCUIT BOARD MOUNTING BASE, 1 CIRCUIT

BOARD WITH 1 LED, MOLDED WHITE PLASTIC LED

SURROUND/REFLECTOR MOUNTING BASE, MOLDED

WHITE PLASTIC REFLECTOR WITH TEXTURED SEMI-

SPECULAR FINISH, CLEAR MICRO-PRISMATIC FLAT

GLASS LENS IN MACHINED BLACK PAINTED

CYLINDRICAL METAL FRAME WITH UNFINISHED

INTERIOR. LENS PRISMS OUT.

LAMPS: TWO WHITE MULTI-CHIP LIGHT EMITTING

DIODES (LEDs), 1 VERTICAL BASE-UP

POSITION, 1 VERTICAL BASE-DOWN POSITION.

INPUT ELECTRICAL: 120.0 VOLTS, 68.8 WATTS,

0.577 AMPS

MOUNTING: WALL

LED DRIVERS: TWO ELDOLED ECODRIVE 561/S, DRIVERS

HAVE MULTIPLE LEADS, ONLY LINE INPUT AND

LED OUTPUT LEADS CONNECTED FOR THIS TEST.

CLIENT STATES EACH DRIVER PROGRAMMED FOR

1050mA OUTPUT.

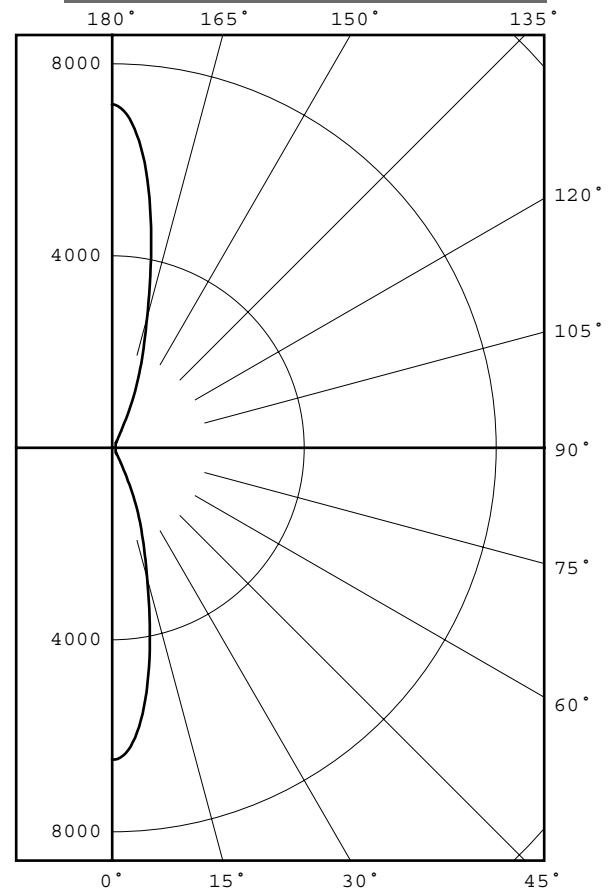
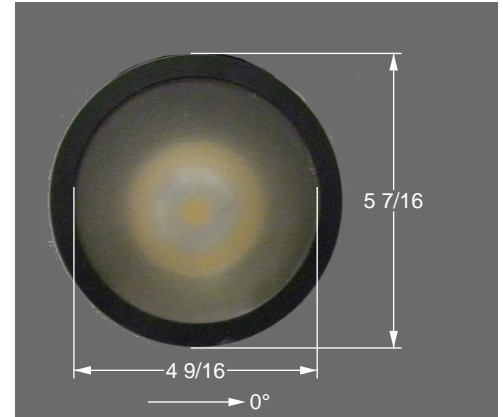
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE

PROVIDED AT RATED INPUT VOLTAGE

(120VAC, 60Hz) TO THE DRIVERS.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET



DEG	CANDELA	LUMENS
0	6496	
5	5952	519
15	2815	787
25	848	407
35	176	119
45	81	63
55	40	37
65	18	18
75	8	8
85	2	2
90	0	
95	1	2
105	7	8
115	17	17
125	38	34
135	76	59
145	157	105
155	730	364
165	2813	789
175	6418	556
180	7160	

ZONAL LUMEN	SUMMARY	
ZONE	LUMENS	%FIXT
0- 30	1714	44.0
0- 40	1833	47.1
0- 60	1933	49.6
0- 90	1962	50.4
90-120	26	0.7
90-130	61	1.6
90-150	226	5.8
90-180	1934	49.6
0-180	3895	100.0

EFFICACY = 56.6 lm/W

CIE TYPE - GENERAL DIFFUSE

LUMINAIRE SPACING CRITERION = 0.45

BEAM ANGLE (50%) : 25.5 DEGREES

FIELD ANGLE (10%) : 50.2 DEGREES

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.

Checked J. VILLANUEVA

Approved R. BEATTIE
Lighting Engineer



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LUMINOUS DIAMETER: 4.562

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	10860.
55	6612.
65	4038.
75	2930.
85	2176.



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CANDELA DISTRIBUTION

0.0	6496	95.0	1
0.5	6496	97.5	3
1.0	6483	100.0	4
1.5	6460	102.5	6
2.0	6423	105.0	7
2.5	6375	107.5	9
3.0	6314	110.0	11
3.5	6241	112.5	14
4.0	6150	115.0	17
4.5	6055	117.5	20
5.0	5952	120.0	25
5.5	5837	122.5	30
6.0	5713	125.0	38
6.5	5578	127.5	46
7.0	5436	130.0	55
7.5	5287	132.5	65
8.0	5132	135.0	76
8.5	4972	137.5	89
9.0	4806	140.0	105
9.5	4636	142.5	126
10.0	4464	145.0	157
11.0	4116	147.5	205
11.5	3941	150.0	287
12.0	3766	152.5	436
12.5	3594	155.0	730
13.0	3426	157.5	1172
13.5	3265	160.0	1659
14.0	3105	161.0	1853
14.5	2961	162.0	2067
15.0	2815	163.0	2289
16.0	2555	164.0	2536
17.0	2323	165.0	2813
18.0	2115	165.5	2968
19.0	1919	166.0	3133
20.0	1733	166.5	3300
22.5	1285	167.0	3483
25.0	848	167.5	3667
27.5	520	168.0	3858
30.0	339	168.5	4055
32.5	237	169.0	4254
35.0	176	169.5	4455
37.5	138	170.0	4662
40.0	113	170.5	4863
42.5	95	171.0	5059
45.0	81	171.5	5253
47.5	69	172.0	5448
50.0	58	172.5	5632
52.5	49	173.0	5808
55.0	40	173.5	5976
57.5	33	174.0	6134
60.0	27	174.5	6280
62.5	22	175.0	6418
65.0	18	175.5	6543
67.5	15	176.0	6662
70.0	12	176.5	6771
72.5	10	177.0	6868
75.0	8	177.5	6949
77.5	6	178.0	7020
80.0	4	178.5	7074
82.5	3	179.0	7117
85.0	2	179.5	7145
87.5	0	180.0	7160
90.0	0		
92.5	0		



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	149
5- 10	370
10- 15	422
15- 20	365
20- 25	268
25- 30	140
30- 35	72
35- 40	47
40- 45	35
45- 50	28
50- 55	21
55- 60	15
60- 65	11
65- 70	8
70- 75	5
75- 80	3
80- 85	2
85- 90	0
90- 95	0
95-100	1
100-105	3
105-110	5
110-115	7
115-120	10
120-125	14
125-130	20
130-135	26
135-140	33
140-145	43
145-150	63
150-155	118
155-160	246
160-165	358
165-170	431
170-175	394
175-180	162

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	519
0- 20	1306
0- 30	1714
0- 40	1833
0- 50	1896
0- 60	1933
0- 70	1951
0- 80	1960
0- 90	1962
0-100	1963
0-110	1971
0-120	1988
0-130	2022
0-140	2082
0-150	2187
0-160	2551
0-170	3340
0-180	3895



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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	107	107	107	107	99	99	99	99	84	84	84	69	69	69	56	56	56	50
1	101	97	94	92	93	90	88	86	77	76	74	65	64	63	54	54	53	48
2	94	89	84	81	87	83	79	76	72	69	67	61	60	58	52	51	50	46
3	89	82	76	72	82	77	72	68	67	64	61	58	56	54	50	48	47	43
4	84	76	70	65	78	71	66	62	63	59	56	55	52	50	48	46	45	41
5	79	70	64	60	74	66	61	57	59	55	52	52	49	47	46	44	42	40
6	75	66	59	55	70	62	57	53	56	52	49	50	47	45	44	42	41	38
7	71	61	55	51	66	58	53	49	53	49	46	47	44	42	42	40	39	37
8	67	58	52	48	63	55	50	46	50	46	43	45	42	40	41	39	37	35
9	64	55	49	45	61	52	47	44	48	44	41	43	40	38	39	37	36	34
10	61	52	46	43	58	50	45	41	46	42	39	42	39	37	38	36	34	33

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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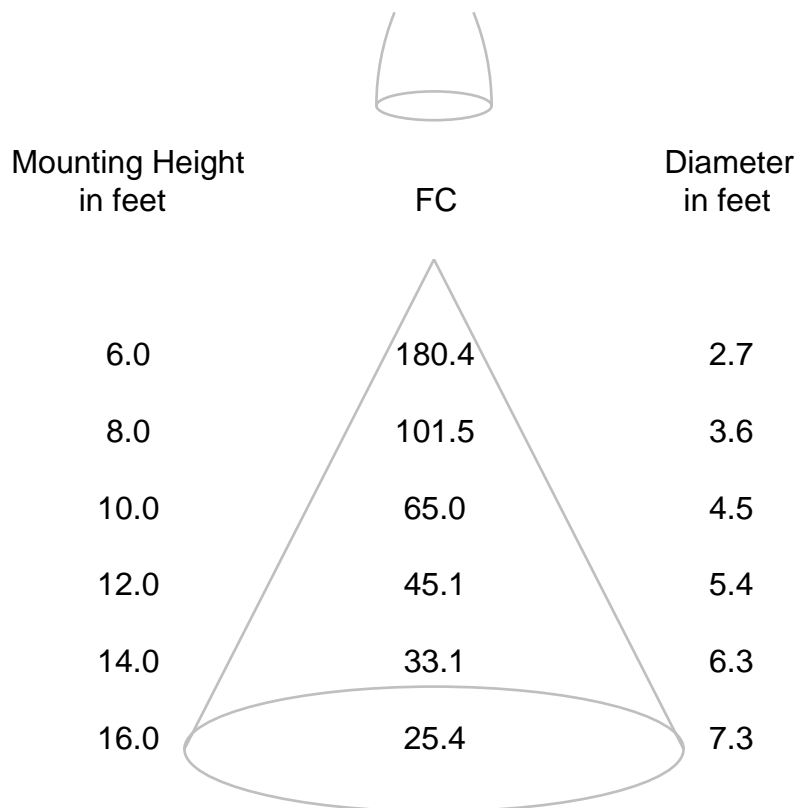
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CONE OF LIGHT DIAGRAM

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





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