

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: ITL88303-GONIOPHOTOMETRY

PAGE: 1 OF 7

ISSUE DATE: 09/23/16

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: MA-LED-x45/x45-NSP/NSP-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 MULTI-FACETED WHITE

PLASTIC REFLECTOR WITH 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, 68.7 WATTS,

0.576 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.

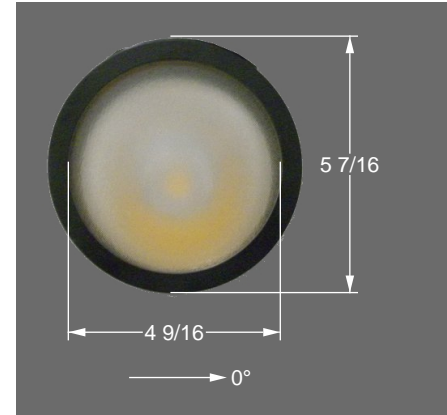
NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE

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	26368	
5	19234	1427
15	2927	892
25	608	299
35	102	71
45	41	33
55	23	21
65	13	13
75	7	7
85	1	1
90	0	
95	2	2
105	7	8
115	14	14
125	23	21
135	40	31
145	95	66
155	581	289
165	2824	858
175	18468	1372
180	26465	

ZONAL LUMEN	SUMMARY	
ZONE	LUMENS	%FIXT
0- 30	2617	48.3
0- 40	2688	49.6
0- 60	2742	50.5
0- 90	2763	50.9
90-120	23	0.4
90-130	44	0.8
90-150	142	2.6
90-180	2661	49.1
0-180	5424	100.0

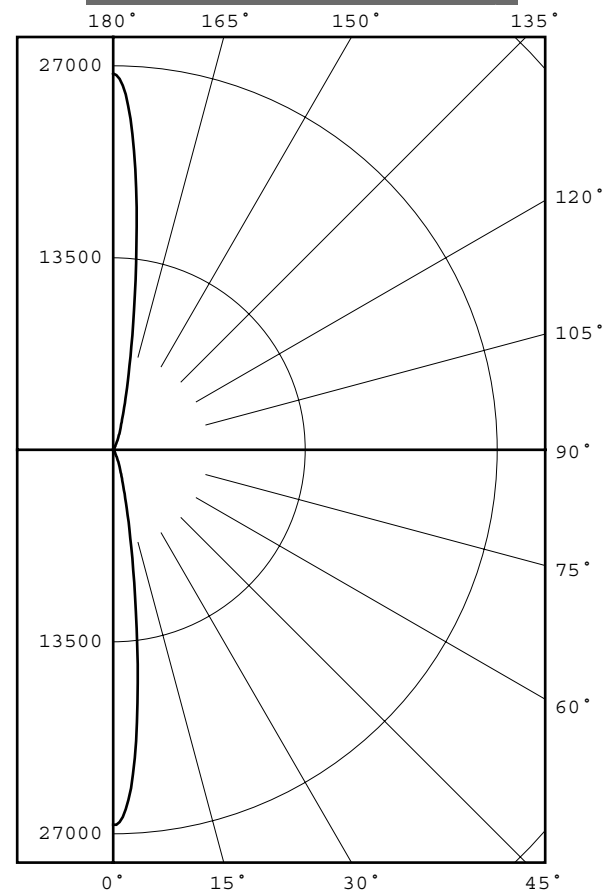
EFFICACY = 79.0 lm/W

CIE TYPE - GENERAL DIFFUSE

LUMINAIRE SPACING CRITERION = 0.25

BEAM ANGLE (50%) : 14.0 DEGREES

FIELD ANGLE (10%) : 30.8 DEGREES



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	5497.
55	3802.
65	2916.
75	2564.
85	1088.



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PAGE: 3 OF 7

CANDELA DISTRIBUTION

0.0	26368	95.0	2
0.5	26360	97.5	3
1.0	26184	100.0	4
1.5	25835	102.5	6
2.0	25299	105.0	7
2.5	24647	107.5	9
3.0	23826	110.0	10
3.5	22862	112.5	12
4.0	21735	115.0	14
4.5	20529	117.5	16
5.0	19234	120.0	18
5.5	17885	122.5	20
6.0	16472	125.0	23
6.5	15173	127.5	26
7.0	13872	130.0	30
7.5	12683	132.5	35
8.0	11495	135.0	40
8.5	10449	137.5	46
9.0	9450	140.0	56
9.5	8566	142.5	70
10.0	7748	145.0	95
11.0	6332	147.5	136
11.5	5733	150.0	207
12.0	5187	152.5	334
12.5	4697	155.0	581
13.0	4255	157.5	939
13.5	3861	160.0	1351
14.0	3512	161.0	1541
14.5	3200	162.0	1767
15.0	2927	163.0	2044
16.0	2463	164.0	2390
17.0	2096	165.0	2824
18.0	1803	165.5	3083
19.0	1569	166.0	3374
20.0	1373	166.5	3700
22.5	966	167.0	4074
25.0	608	167.5	4480
27.5	354	168.0	4950
30.0	219	168.5	5459
32.5	146	169.0	6043
35.0	102	169.5	6679
37.5	75	170.0	7384
40.0	58	170.5	8147
42.5	48	171.0	9008
45.0	41	171.5	9921
47.5	36	172.0	10950
50.0	31	172.5	12034
52.5	27	173.0	13228
55.0	23	173.5	14453
57.5	20	174.0	15764
60.0	17	174.5	17123
62.5	15	175.0	18468
65.0	13	175.5	19791
67.5	11	176.0	21074
70.0	10	176.5	22248
72.5	8	177.0	23303
75.0	7	177.5	24219
77.5	5	178.0	25014
80.0	4	178.5	25622
82.5	2	179.0	26080
85.0	1	179.5	26349
87.5	0	180.0	26465
90.0	0		
92.5	0		



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PAGE: 4 OF 7

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	545
5- 10	881
10- 15	565
15- 20	327
20- 25	203
25- 30	96
30- 35	45
35- 40	26
40- 45	18
45- 50	15
50- 55	12
55- 60	9
60- 65	7
65- 70	6
70- 75	4
75- 80	3
80- 85	1
85- 90	0
90- 95	0
95-100	2
100-105	3
105-110	5
110-115	6
115-120	8
120-125	9
125-130	11
130-135	14
135-140	17
140-145	24
145-150	42
150-155	91
155-160	198
160-165	319
165-170	540
170-175	840
175-180	532

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	1427
0- 20	2318
0- 30	2617
0- 40	2688
0- 50	2721
0- 60	2742
0- 70	2754
0- 80	2762
0- 90	2763
0-100	2765
0-110	2773
0-120	2786
0-130	2807
0-140	2839
0-150	2905
0-160	3194
0-170	4052
0-180	5424



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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	70	70	70	57	57	57	51
1	101	98	96	93	94	91	89	87	78	77	76	66	66	65	55	55	54	49
2	96	91	86	83	89	85	81	78	74	71	69	63	62	61	54	53	52	48
3	91	84	79	75	84	79	75	71	69	67	64	61	59	57	52	51	50	47
4	86	79	73	69	80	74	70	66	66	63	60	58	56	54	51	50	49	46
5	82	74	68	64	77	70	65	62	63	59	57	56	54	52	50	48	47	45
6	78	70	64	60	74	67	62	58	60	57	54	54	52	50	49	47	46	44
7	75	66	61	57	71	63	59	55	58	54	52	52	50	48	48	46	45	43
8	72	63	58	54	68	61	56	53	56	52	50	51	48	47	46	45	44	42
9	69	61	55	52	66	58	54	51	54	50	48	50	47	45	46	44	43	41
10	67	58	53	50	63	56	52	49	52	49	46	48	46	44	45	43	42	40

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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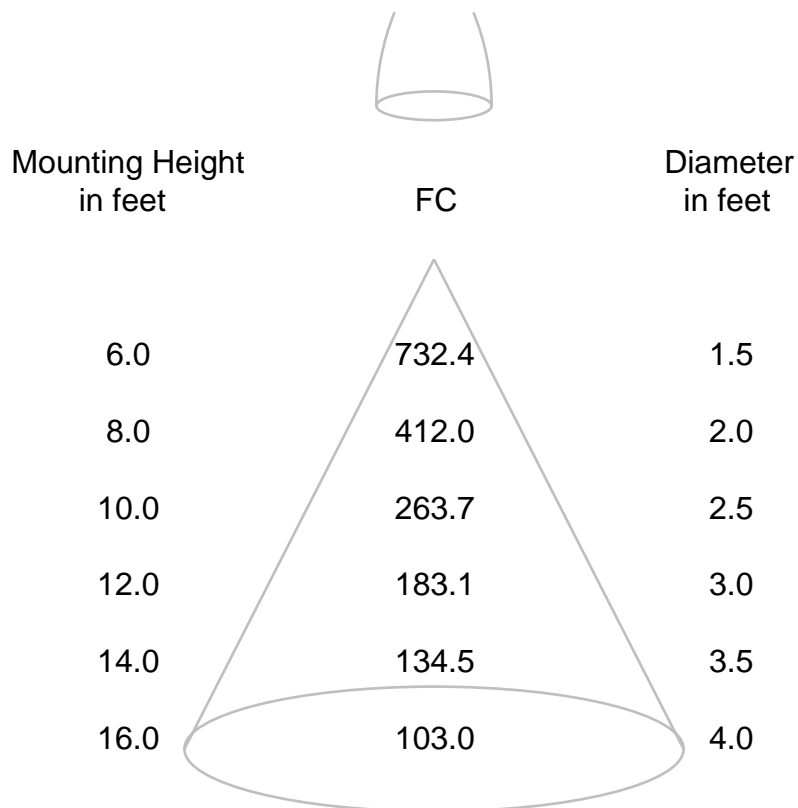
PAGE: 6 OF 7

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CONE OF LIGHT DIAGRAM

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





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