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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: ITL88308-GONIOPHOTOMETRY

PAGE: 1 OF 7

ISSUE DATE: 09/28/16

PREPARED FOR: B-K LIGHTING, INC.

CATALOG NUMBER: MA-LED-x51/x51-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 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, 115.0 WATTS, 0.963 AMPS

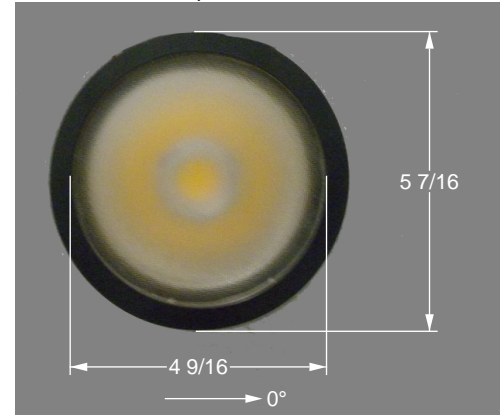
MOUNTING: WALL

LED DRIVERS: TWO THOMAS RESEARCH PRODUCTS PLED75W-054-C1400-D, DRIVERS HAVE MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST.

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

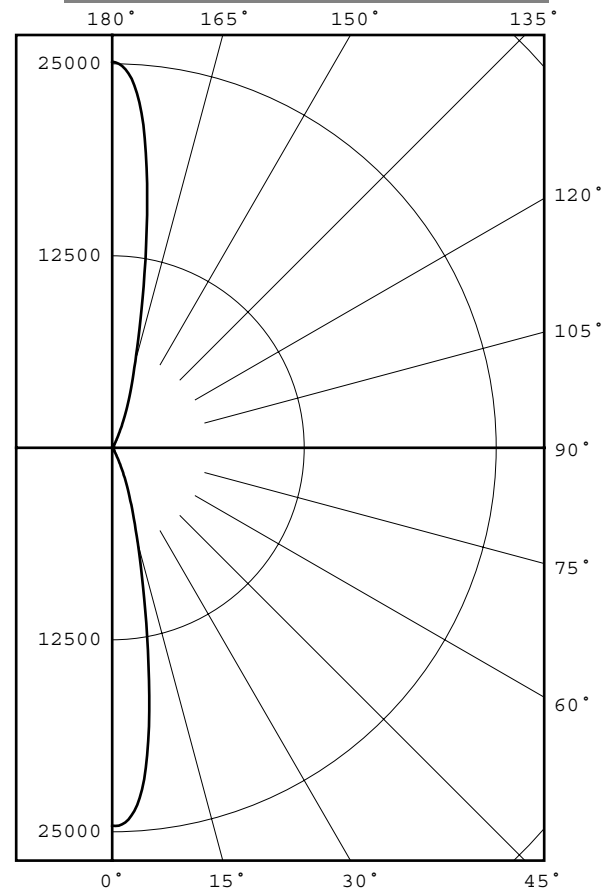
TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET



DEG	CANDELA	LUMENS
0	24604	
5	22317	1827
15	6417	1851
25	1327	660
35	199	141
45	85	67
55	49	44
65	31	31
75	18	19
85	4	5
90	0	
95	3	4
105	16	16
115	28	28
125	44	40
135	79	62
145	175	122
155	1144	575
165	5829	1686
175	21871	1763
180	25137	

ZONAL LUMEN ZONE	SUMMARY LUMENS	%FIXT
0- 30	4337	48.5
0- 40	4478	50.1
0- 60	4590	51.3
0- 90	4645	51.9
90-120	48	0.5
90-130	89	1.0
90-150	273	3.0
90-180	4297	48.1
0-180	8941	100.0



Checked J. VILLANUEVA
Approved R. BEATTIE
Lighting Engineer

EFFICACY = 77.7 lm/W

CIE TYPE - GENERAL DIFFUSE

LUMINAIRE SPACING CRITERION = 0.36

BEAM ANGLE (50%) : 19.9 DEGREES

FIELD ANGLE (10%) : 41.7 DEGREES

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



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LUMINOUS DIAMETER: 4.562

LUMINANCE DATA IN CANDELA/SQ M
ANGLE AVERAGE
IN DEG

45	11397.
55	8099.
65	6954.
75	6593.
85	4351.



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CANDELA DISTRIBUTION

0.0	24604	95.0	3
0.5	24614	97.5	6
1.0	24598	100.0	9
1.5	24529	102.5	12
2.0	24405	105.0	16
2.5	24230	107.5	19
3.0	23981	110.0	22
3.5	23688	112.5	25
4.0	23304	115.0	28
4.5	22861	117.5	32
5.0	22317	120.0	35
5.5	21684	122.5	39
6.0	20955	125.0	44
6.5	20143	127.5	51
7.0	19246	130.0	58
7.5	18295	132.5	67
8.0	17309	135.0	79
8.5	16320	137.5	93
9.0	15329	140.0	112
9.5	14322	142.5	137
10.0	13386	145.0	175
11.0	11644	147.5	241
11.5	10822	150.0	371
12.0	10043	152.5	644
12.5	9334	155.0	1144
13.0	8671	157.5	1868
13.5	8034	160.0	2832
14.0	7457	161.0	3288
14.5	6923	162.0	3798
15.0	6417	163.0	4372
16.0	5555	164.0	5043
17.0	4817	165.0	5829
18.0	4192	165.5	6275
19.0	3646	166.0	6759
20.0	3148	166.5	7308
22.5	2111	167.0	7894
25.0	1327	167.5	8530
27.5	781	168.0	9209
30.0	450	168.5	9934
32.5	286	169.0	10713
35.0	199	169.5	11544
37.5	151	170.0	12448
40.0	121	170.5	13349
42.5	101	171.0	14331
45.0	85	171.5	15333
47.5	73	172.0	16349
50.0	64	172.5	17358
52.5	55	173.0	18352
55.0	49	173.5	19332
57.5	43	174.0	20252
60.0	39	174.5	21115
62.5	35	175.0	21871
65.0	31	175.5	22550
67.5	28	176.0	23131
70.0	25	176.5	23640
72.5	21	177.0	24055
75.0	18	177.5	24402
77.5	14	178.0	24659
80.0	11	178.5	24863
82.5	8	179.0	25000
85.0	4	179.5	25088
87.5	0	180.0	25137
90.0	0		
92.5	0		



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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	564
5- 10	1262
10- 15	1104
15- 20	746
20- 25	451
25- 30	209
30- 35	89
35- 40	52
40- 45	38
45- 50	30
50- 55	24
55- 60	20
60- 65	17
65- 70	14
70- 75	11
75- 80	8
80- 85	4
85- 90	1
90- 95	0
95-100	3
100-105	7
105-110	10
110-115	13
115-120	15
120-125	18
125-130	22
130-135	27
135-140	35
140-145	47
145-150	75
150-155	175
155-160	400
160-165	676
165-170	1010
170-175	1199
175-180	563

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	1827
0- 20	3677
0- 30	4337
0- 40	4478
0- 50	4546
0- 60	4590
0- 70	4621
0- 80	4640
0- 90	4645
0-100	4648
0-110	4665
0-120	4693
0-130	4733
0-140	4795
0-150	4917
0-160	5492
0-170	7178
0-180	8941



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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	108	108	108	108	100	100	100	100	84	84	84	71	71	71	58	58	58	52
1	101	98	96	93	94	91	89	87	79	77	76	67	66	65	56	55	55	50
2	96	90	86	82	89	85	81	78	74	71	69	63	62	61	54	53	52	48
3	90	84	79	75	84	79	74	71	69	66	64	61	59	57	52	51	50	47
4	86	78	72	68	80	74	69	65	65	62	59	58	56	54	51	49	48	45
5	81	73	67	63	76	69	64	61	62	59	56	55	53	51	49	48	46	44
6	77	69	63	59	73	65	61	57	59	56	53	53	51	49	48	46	45	43
7	74	65	59	55	70	62	57	54	57	53	50	51	49	47	46	45	43	41
8	71	62	56	53	67	59	54	51	54	51	48	50	47	45	45	43	42	40
9	68	59	54	50	64	57	52	49	52	49	46	48	45	43	44	42	41	39
10	65	56	51	48	62	54	50	47	50	47	44	47	44	42	43	41	40	38

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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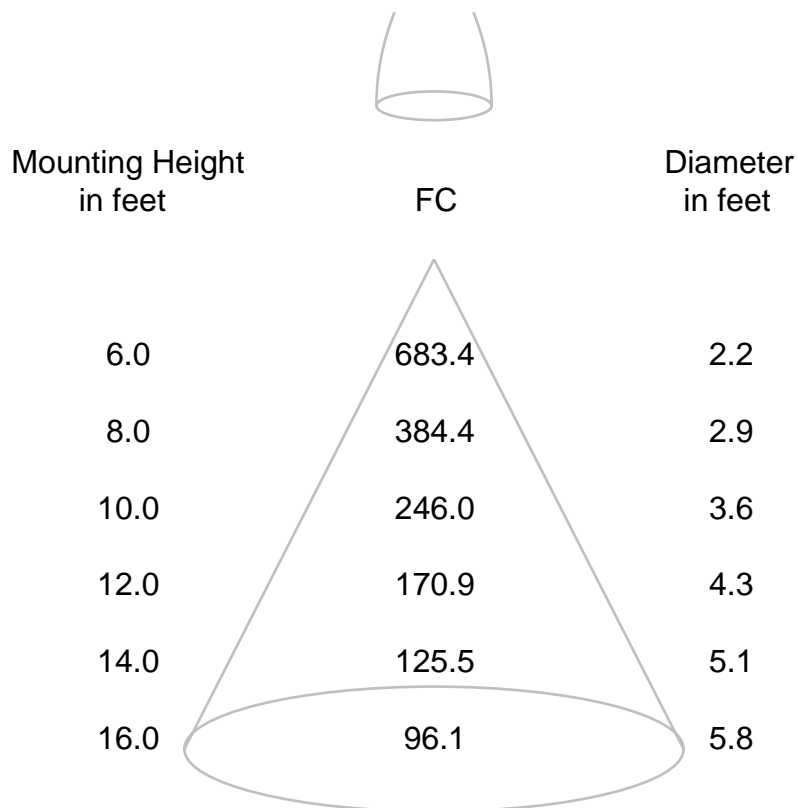
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CONE OF LIGHT DIAGRAM

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





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