

itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA

PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL62659

DATE: 07/20/09

CATALOG NUMBER: FU-NAU-X-XX

LUMINAIRE: EXTRUDED SEMI-SPECULAR METAL HOUSING WITH FABRICATED METAL END PLATES, FORMED SEMI-SPECULAR METAL REFLECTOR WITH WHITE FIBROUS INSERT AND END PIECES, ONE GREEN CIRCUIT BOARD WITH 12 LEDS, MOLDED WHITE PLASTIC 12-CELL LOUVER.

LAMP: TWELVE WHITE LIGHT EMITTING DIODES (LEDS) EACH WITH HEMISPHERICAL INTEGRAL LENS, TILTED 55-DEGREES FROM VERTICAL BASE-UP POSITION.

LED DRIVER: INTEGRAL LED DRIVER

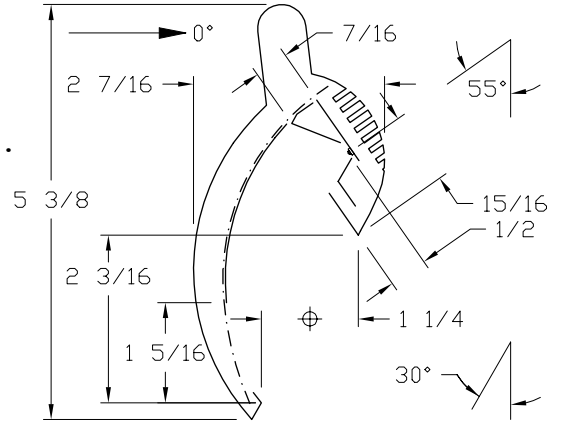
TOTAL INPUT WATTS = 34.8 AT 12.0 VOLTS

MOUNTING: SURFACE

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT CUSTOMER SPECIFIED INPUT VOLTAGE (12VAC, 60Hz) TO THE LED DRIVER.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 33.25 FEET



CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0	FLUX
0	202	202	202	202	202	19
5	291	261	193	126	115	56
15	405	320	174	83	37	83
25	437	314	156	15	4	102
35	420	305	136	1	0	116
45	440	283	107	0	0	125
55	489	246	75	0	0	113
65	397	199	45	0	0	80
75	249	141	20	0	0	48
85	143	87	2	0	0	25
90	113	67	0	0	0	10
95	89	51	0	0	0	2
105	40	18	0	0	0	1
115	9	5	0	0	0	0
125	2	3	0	0	0	0
135	2	1	0	0	0	0
145	1	0	0	0	0	0
155	0	0	0	0	0	0
165	0	0	0	0	0	0
175	0	0	0	0	0	0
180	0	0	0	0	0	0

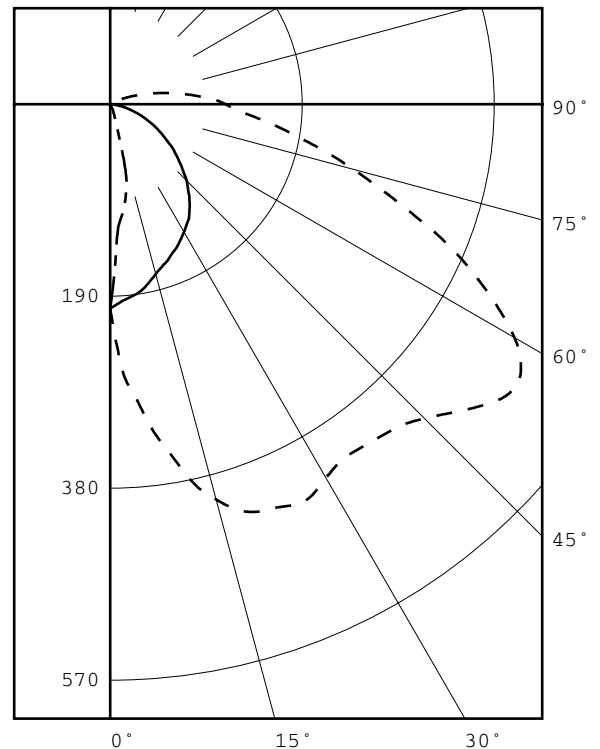
ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	159	20.3
0- 40	261	33.4
0- 60	502	64.2
0- 90	743	95.1
90-120	37	4.7
90-130	38	4.8
90-150	38	4.9
90-180	38	4.9
0-180	782	100.0

EFFICACY = 22.5 Lm/W

CIE TYPE - DIRECT

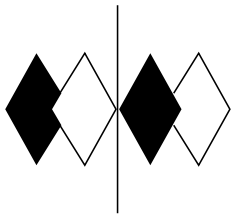
PLANE : 0-DEG 90-DEG 180-DEG
SPACING CRITERIA : 2.7 1.1 0.3
BEAM ANGLE (50%) : 73.6 X N/A DEGREES
FIELD ANGLE (10%) : 117.2 X 127.2 DEGREES



LEGEND:
0-deg: - - - - -
90-deg: = = = = =
180-deg: - - - - -

Checked N. WHITE

Approved R. BERGIN



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0.0	202	202	202	202	202	202	202	202	202
5.0	291	271	261	225	193	166	126	129	115
10.0	354	330	297	242	186	133	105	102	90
15.0	405	380	320	245	174	115	83	72	37
20.0	429	407	313	246	165	101	47	18	12
25.0	437	403	314	245	156	86	15	8	4
30.0	427	387	309	242	146	68	8	1	0
35.0	420	379	305	234	136	42	1	0	0
40.0	425	375	297	223	122	14	0	0	0
45.0	440	370	283	209	107	9	0	0	0
50.0	468	372	265	192	90	4	0	0	0
55.0	489	378	246	178	75	0	0	0	0
60.0	462	369	224	161	59	0	0	0	0
65.0	397	334	199	140	45	0	0	0	0
70.0	319	283	170	119	32	0	0	0	0
75.0	249	228	141	98	20	0	0	0	0
80.0	190	175	112	75	10	0	0	0	0
85.0	143	134	87	53	2	0	0	0	0
90.0	113	100	67	34	0	0	0	0	0
95.0	89	70	51	17	0	0	0	0	0
100.0	62	48	33	7	0	0	0	0	0
105.0	40	30	18	4	0	0	0	0	0
110.0	23	15	7	3	0	0	0	0	0
115.0	9	4	5	2	0	0	0	0	0
120.0	3	3	3	1	0	0	0	0	0
125.0	2	3	3	1	0	0	0	0	0
130.0	2	2	2	0	0	0	0	0	0
135.0	2	2	1	0	0	0	0	0	0
140.0	2	1	0	0	0	0	0	0	0
145.0	1	0	0	0	0	0	0	0	0
150.0	0	0	0	0	0	0	0	0	0
155.0	0	0	0	0	0	0	0	0	0
160.0	0	0	0	0	0	0	0	0	0
165.0	0	0	0	0	0	0	0	0	0
170.0	0	0	0	0	0	0	0	0	0
175.0	0	0	0	0	0	0	0	0	0
180.0	0	0	0	0	0	0	0	0	0



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ZONAL LUMEN SUMMARY

0- 5	5.
5- 10	14.
10- 15	24.
15- 20	32.
20- 25	39.
25- 30	45.
30- 35	49.
35- 40	53.
40- 45	56.
45- 50	59.
50- 55	62.
55- 60	63.
60- 65	60.
65- 70	53.
70- 75	45.
75- 80	36.
80- 85	27.
85- 90	20.
90- 95	15.
95-100	10.
100-105	6.
105-110	3.
110-115	2.
115-120	1.
120-125	0.
125-130	0.
130-135	0.
135-140	0.
140-145	0.
145-150	0.
150-155	0.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.



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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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	95
1	105	99	94	89	101	96	91	87	91	87	83	86	83	80	81	79	76	74
2	94	84	76	70	91	82	75	69	78	71	66	73	68	64	70	65	62	59
3	85	73	64	56	82	71	62	56	67	60	54	64	58	52	60	55	51	48
4	77	64	54	47	74	62	53	46	59	51	45	56	49	44	53	47	43	40
5	71	57	47	40	68	55	46	39	52	44	38	50	43	37	47	41	37	34
6	65	51	41	34	63	49	40	34	47	39	33	45	38	32	43	37	32	29
7	60	46	36	30	58	45	36	30	43	35	29	41	34	28	39	33	28	26
8	56	42	33	26	54	41	32	26	39	31	26	37	30	25	36	29	25	23
9	52	38	29	24	50	37	29	23	36	28	23	34	27	23	33	27	22	20
10	49	35	27	21	47	34	26	21	33	26	21	32	25	20	30	24	20	18

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 LUMINAIRE 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.