

REPORT NUMBER: ITL90449-GONIOPHOTOMETRY

PAGE: 1 OF 8 **ISSUE DATE:** 10/01/18

PREPARED FOR: LUMOS LIGHTING

ADDRESS: 2385 S DELAWARE STREET
DENVER, CO 80223

CATALOG NUMBER: ALC-DN-48-STR

LUMINAIRE: FABRICATED WHITE PAINTED METAL HOUSING, 2 WHITE CIRCUIT BOARDS EACH WITH 36 LEDS, TWO FLAT WHITE PAINTED METAL TOP APERTURE COVERS, TRANSLUCENT WHITE PLASTIC BOTTOM LENS. DRIVER IS EXPOSED AND OFFSET TO ONE SIDE OF THE OPTICAL COMPARTMENT.

LAMPS: SEVENTY-TWO WHITE LIGHT EMITTING DIODES (LEDS), AIMED AT THE HORIZON.

INPUT ELECTRICAL: 120.0 VOLTS, 24.8 WATTS, 0.208 AMPS

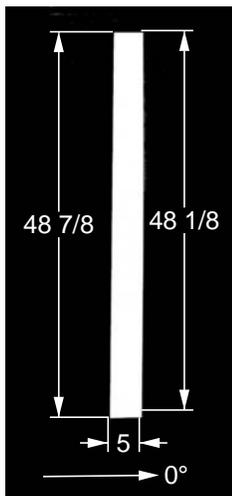
MOUNTING: WALL

LED DRIVER: AC ELECTRONICS AC-50CD1.4APC7, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST. CLIENT STATES DRIVER PROGRAMMED FOR 1400mA OUTPUT.

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

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 35.0 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 *C. STOUT*

REPORT NUMBER: ITL90449-GONIOPHOTOMETRY

PAGE: 2 OF 8

ISSUE DATE: 10/01/18

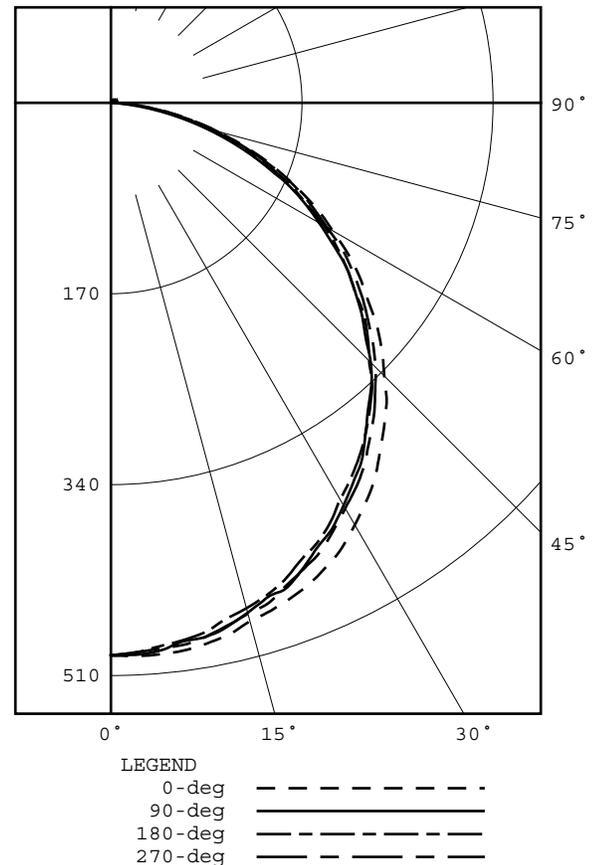
PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

CANDELA	DISTRIBUTION				FLUX
	0.0	90.0	180.0	270.0	
0	492	492	492	492	
5	493	490	486	488	47
15	478	470	466	471	134
25	455	436	433	441	204
35	409	389	385	393	246
45	344	327	325	333	257
55	270	256	256	263	234
65	186	175	178	184	178
75	98	86	94	97	100
85	22	13	20	19	24
90	6	0	5	0	
95	6	0	5	0	4
105	6	0	5	0	3
115	5	0	5	0	3
125	5	0	4	0	2
135	4	0	3	0	2
145	3	0	3	0	1
155	2	0	2	0	1
165	1	0	1	0	0
175	1	0	1	0	0
180	0	0	0	0	

ZONAL ZONE	LUMEN LUMENS	SUMMARY %FIXT
0- 30	384	26.7
0- 40	630	43.8
0- 60	1120	77.9
0- 90	1422	98.9
90-120	10	0.7
90-130	13	0.9
90-150	15	1.1
90-180	16	1.1
0-180	1439	100.0

EFFICACY = 58.0 lm/W
 CIE TYPE - DIRECT
 PLANE : 0-DEG 90-DEG 180-DEG
 SPACING CRITERIA : 1.31 1.25 1.24
 BEAM ANGLE (50%) : 113.8 X 113.0 DEGREES
 FIELD ANGLE (10%) : 161.5 X 160.1 DEGREES





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: ITL90449-GONIOPHOTOMETRY

PAGE: 3 OF 8

ISSUE DATE: 10/01/18

PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

PLANE	:	0-DEG	90-DEG
LUMINOUS LENGTH	:	5.000	48.125
HEIGHT OF SIDE	:	0.000	0.125

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE	AVERAGE	AVERAGE	AVERAGE
IN DEG	0-DEG	90-DEG	180-DEG
45	3057.	2979.	2888.
55	2928.	2875.	2776.
65	2691.	2667.	2575.
75	2231.	2140.	2140.
85	1265.	961.	1150.



PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL90449-GONIOPHOTOMETRY

PAGE: 4 OF 8

ISSUE DATE: 10/01/18

PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

CANDELA DISTRIBUTION
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	202.5	225.0
0.0	492	492	492	492	492	492	492	492	492	492	492
5.0	493	492	490	488	490	489	486	488	486	485	484
10.0	489	490	491	484	483	477	474	478	479	481	477
15.0	478	480	481	474	470	467	464	465	466	468	468
20.0	469	471	469	460	459	449	450	451	452	453	453
25.0	455	451	452	443	436	429	431	431	433	436	438
30.0	434	431	429	419	414	407	409	407	408	412	415
35.0	409	403	403	392	389	380	383	385	385	390	393
40.0	378	374	374	363	356	353	352	354	358	358	362
45.0	344	342	341	328	327	321	324	322	325	330	332
50.0	309	307	304	293	291	289	289	290	294	294	298
55.0	270	268	266	257	256	251	252	256	256	260	261
60.0	228	227	223	216	214	212	212	216	219	220	224
65.0	186	183	181	177	175	170	173	174	178	180	183
70.0	143	139	137	132	130	130	132	133	137	138	140
75.0	98	96	92	90	86	85	88	91	94	95	97
80.0	57	54	52	48	46	47	49	51	54	55	55
85.0	22	21	19	15	13	13	16	19	20	21	21
90.0	6	6	4	2	0	2	4	5	5	5	4
95.0	6	6	4	2	0	2	4	5	5	5	4
100.0	6	6	4	2	0	2	4	5	5	5	4
105.0	6	5	4	2	0	2	3	4	5	5	3
110.0	6	5	4	2	0	2	3	4	5	4	3
115.0	5	5	4	2	0	1	3	4	5	4	3
120.0	5	4	3	2	0	1	3	4	4	4	3
125.0	5	4	3	1	0	1	3	4	4	4	3
130.0	4	4	3	1	0	1	2	3	3	3	2
135.0	4	3	3	1	0	1	2	3	3	3	2
140.0	4	3	2	1	0	1	2	3	3	3	2
145.0	3	3	2	1	0	1	2	3	3	3	2
150.0	3	3	2	1	0	1	2	2	2	2	2
155.0	2	2	2	1	0	1	1	2	2	2	2
160.0	2	2	1	1	0	1	1	1	2	2	1
165.0	1	1	1	0	0	1	1	1	1	1	1
170.0	1	1	1	1	0	0	1	1	1	1	1
175.0	1	0	1	1	0	1	1	1	1	1	0
180.0	0	0	0	0	0	0	0	0	0	0	0



PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL90449-GONIOPHOTOMETRY

PAGE: 5 OF 8

ISSUE DATE: 10/01/18

PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

CANDELA DISTRIBUTION
LATERAL ANGLE

	247.5	270.0	292.5	315.0	337.5	360.0
0.0	492	492	492	492	492	492
5.0	489	488	496	493	493	493
10.0	483	483	488	488	488	489
15.0	471	471	477	479	481	478
20.0	456	457	466	469	467	469
25.0	435	441	447	452	453	455
30.0	415	417	425	432	431	434
35.0	391	393	399	407	408	409
40.0	360	364	369	378	380	378
45.0	331	333	338	345	346	344
50.0	298	298	303	310	309	309
55.0	262	263	266	272	273	270
60.0	222	222	226	230	232	228
65.0	182	184	184	188	188	186
70.0	139	139	142	144	143	143
75.0	96	97	97	100	100	98
80.0	55	54	56	58	57	57
85.0	19	19	20	23	23	22
90.0	2	0	2	4	6	6
95.0	2	0	2	4	6	6
100.0	2	0	2	4	6	6
105.0	2	0	2	4	5	6
110.0	2	0	2	4	5	6
115.0	1	0	2	4	5	5
120.0	1	0	2	3	4	5
125.0	1	0	2	3	4	5
130.0	1	0	1	3	4	4
135.0	1	0	1	3	3	4
140.0	1	0	1	2	3	4
145.0	1	0	1	2	3	3
150.0	1	0	1	2	3	3
155.0	1	0	1	1	2	2
160.0	1	0	1	1	2	2
165.0	1	0	0	1	1	1
170.0	1	0	1	1	1	1
175.0	0	0	1	1	0	1
180.0	0	0	0	0	0	0



PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL90449-GONIOPHOTOMETRY

PAGE: 6 OF 8

ISSUE DATE: 10/01/18

PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	12
5- 10	35
10- 15	57
15- 20	77
20- 25	95
25- 30	109
30- 35	120
35- 40	127
40- 45	129
45- 50	128
50- 55	122
55- 60	112
60- 65	98
65- 70	80
70- 75	60
75- 80	39
80- 85	19
85- 90	5
90- 95	2
95-100	2
100-105	2
105-110	2
110-115	2
115-120	1
120-125	1
125-130	1
130-135	1
135-140	1
140-145	1
145-150	1
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	47
0- 20	180
0- 30	384
0- 40	630
0- 50	887
0- 60	1120
0- 70	1298
0- 80	1398
0- 90	1422
0-100	1426
0-110	1430
0-120	1433
0-130	1435
0-140	1437
0-150	1438
0-160	1438
0-170	1439
0-180	1439



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: ITL90449-GONIOPHOTOMETRY

PAGE: 7 OF 8

ISSUE DATE: 10/01/18

PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

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	110	110	110	106	106	106	101	101	101	99
1	108	104	99	96	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	99	90	83	78	96	88	82	77	85	79	75	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	64	74	68	62	71	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	47	73	61	53	46	59	52	46	57	50	45	55	49	45	42
6	70	56	47	41	68	55	47	40	53	46	40	51	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	33	28	40	33	28	38	32	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	25	24

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.

REPORT NUMBER: ITL90449-GONIOPHOTOMETRY

PAGE: 8 OF 8

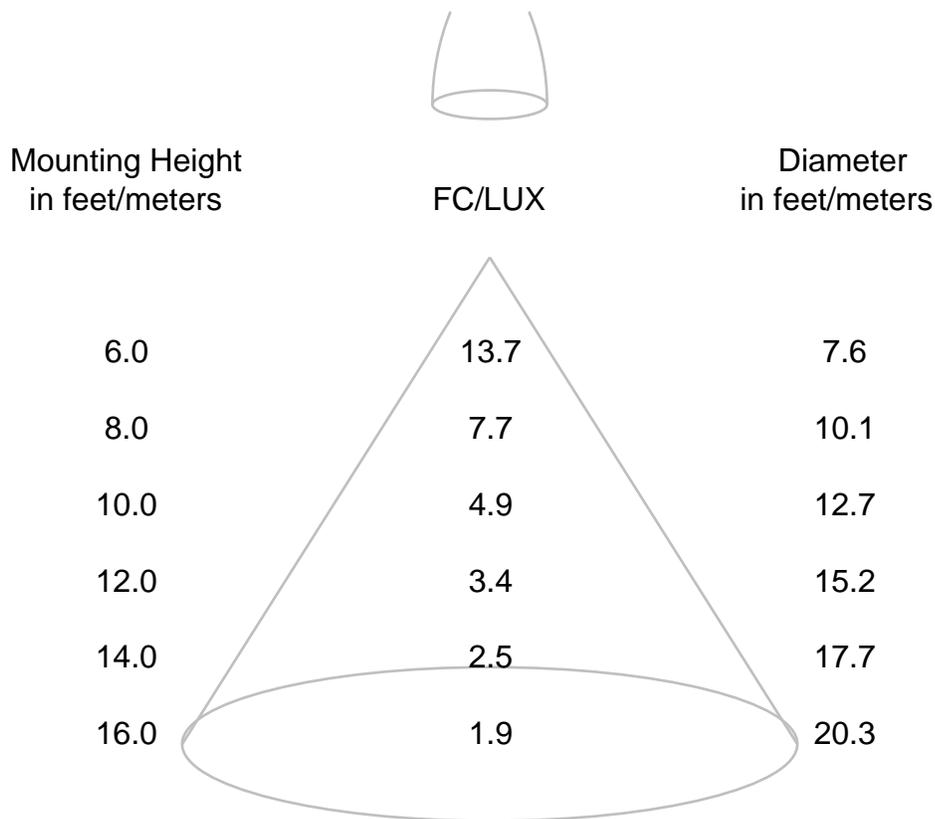
ISSUE DATE: 10/01/18

PREPARED FOR: LUMOS LIGHTING

CATALOG NUMBER: ALC-DN-48-STR

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.