



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



INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

**REPORT NUMBER:**

ITL91941-GONIOPHOTOMETRY

**PAGE:**

**ISSUE DATE:** 06/05/19

**PREPARED FOR:** LUMOS LIGHTING

**ADDRESS:** 2385 S. Delaware Street  
DENVER, CO 80223

**CATALOG NUMBER:** RM42-48-UPL

**LUMINAIRE:** EXTRUDED METAL HOUSING WITH WHITE PAINTED GENERAL INTERIOR FINISH AND FLAT WHITE FINISHED METAL END CAPS, FORMED WHITE PAINTED METAL REFLECTOR, 2 WHITE CIRCUIT BOARDS EACH WITH 36 LEDS, FROSTED PLASTIC LENS.

**LAMPS:** SEVENTY-TWO WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-DOWN POSITION.

**INPUT ELECTRICAL:** 120.0 VOLTS, 25.4 WATTS, 0.212 AMPS

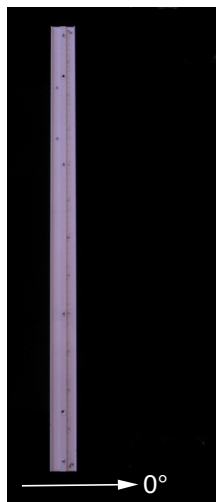
**MOUNTING:** SUSPENDED

**LED DRIVER:** AC ELECTRONICS AC-40CD1.4APMZ, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST. CLIENT STATES DRIVER PROGRAMMED FOR 600mA 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 R BERGIN

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CANDELA DISTRIBUTION						FLUX
	0.0	45.0	90.0	135.0	180.0	
90	0	0	0	0	0	
95	16	15	17	7	7	17
105	108	192	169	31	35	129
115	440	435	398	226	60	324
125	658	644	613	598	427	527
135	819	815	793	777	775	611
145	950	944	932	917	916	581
155	1043	1043	1035	1021	1017	475
165	1106	1101	1097	1090	1089	309
175	1133	1131	1129	1129	1129	107
180	1135	1135	1135	1135	1135	

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 90	0	0.0
90-120	469	15.2
90-130	996	32.4
90-150	2188	71.1
90-180	3079	100.0
0-180	3079	100.0

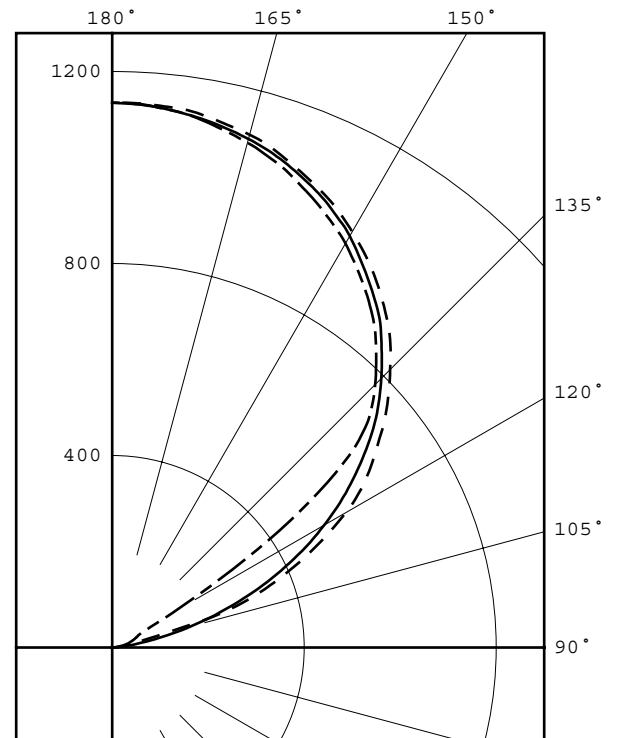
EFFICACY = 121.2 lm/W

CIE TYPE - INDIRECT

PLANE : 0-DEG 90-DEG

BEAM ANGLE (50%) : 112.2 X 114.6 DEGREES

FIELD ANGLE (10%) : 136.2 X 155.5 DEGREES



LEGEND  
0-deg -----  
90-deg -----  
180-deg -----



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# CANDELA DISTRIBUTION

## LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
90.0	0	0	0	0	0	0	0	0	0
92.5	4	5	4	4	4	2	3	3	3
95.0	16	15	15	13	17	6	7	7	7
97.5	31	30	28	45	40	10	13	13	13
100.0	47	45	50	81	74	15	19	20	20
102.5	62	65	133	123	118	39	25	27	28
105.0	108	152	192	172	169	117	31	34	35
107.5	242	250	253	230	224	193	37	40	41
110.0	316	313	313	286	280	253	52	46	48
112.5	379	377	376	343	340	308	109	53	54
115.0	440	441	435	399	398	369	226	65	60
117.5	501	499	492	454	456	424	365	111	82
120.0	562	557	545	508	510	481	472	223	146
122.5	615	608	596	562	563	534	543	371	269
125.0	658	653	644	615	613	586	598	516	427
127.5	698	695	690	663	662	636	646	618	566
130.0	742	740	733	709	710	684	692	684	670
132.5	781	780	776	751	753	728	736	735	732
135.0	819	819	815	794	793	771	777	777	775
137.5	858	855	850	831	831	810	815	815	814
140.0	891	889	884	866	870	847	852	850	853
142.5	921	922	916	898	903	881	886	883	886
145.0	950	949	944	928	932	912	917	915	916
147.5	976	976	974	955	961	942	948	944	944
150.0	1000	1002	1001	980	990	971	973	970	972
152.5	1023	1025	1023	1004	1013	995	998	995	995
155.0	1043	1045	1043	1027	1035	1017	1021	1018	1017
157.5	1060	1062	1060	1044	1053	1037	1041	1038	1037
160.0	1077	1079	1077	1062	1070	1056	1060	1057	1058
162.5	1094	1092	1090	1078	1085	1072	1076	1074	1074
165.0	1106	1103	1101	1091	1097	1086	1090	1090	1089
167.5	1115	1114	1111	1103	1107	1098	1102	1102	1101
170.0	1124	1121	1119	1113	1116	1111	1113	1113	1113
172.5	1131	1128	1126	1122	1123	1120	1122	1123	1123
175.0	1133	1132	1131	1130	1129	1128	1129	1130	1129
177.5	1135	1135	1134	1133	1133	1133	1133	1133	1134
180.0	1135	1135	1135	1135	1135	1135	1135	1135	1135



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5-DEGREE		
ZONAL LUMEN SUMMARY		
90- 95		3
95-100		14
100-105		41
105-110		88
110-115		135
115-120		188
120-125		243
125-130		284
130-135		303
135-140		307
140-145		300
145-150		282
150-155		255
155-160		220
160-165		178
165-170		131
170-175		80
175-180		27

10-DEGREE		
ZONAL LUMEN SUMMARY		
0- 90		0
0-100		17
0-110		145
0-120		469
0-130		996
0-140		1607
0-150		2188
0-160		2663
0-170		2972
0-180		3079



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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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	57	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

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.