

LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P518244

Luminaire Tested: HVL8-8-LD4-2STD-40-UNV-C-EDD

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

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Test Information

Test Method: LM-79-2019
Report Number: P518244
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-40-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11847.0 lumens
Efficiency: N/A
Efficacy: 90.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

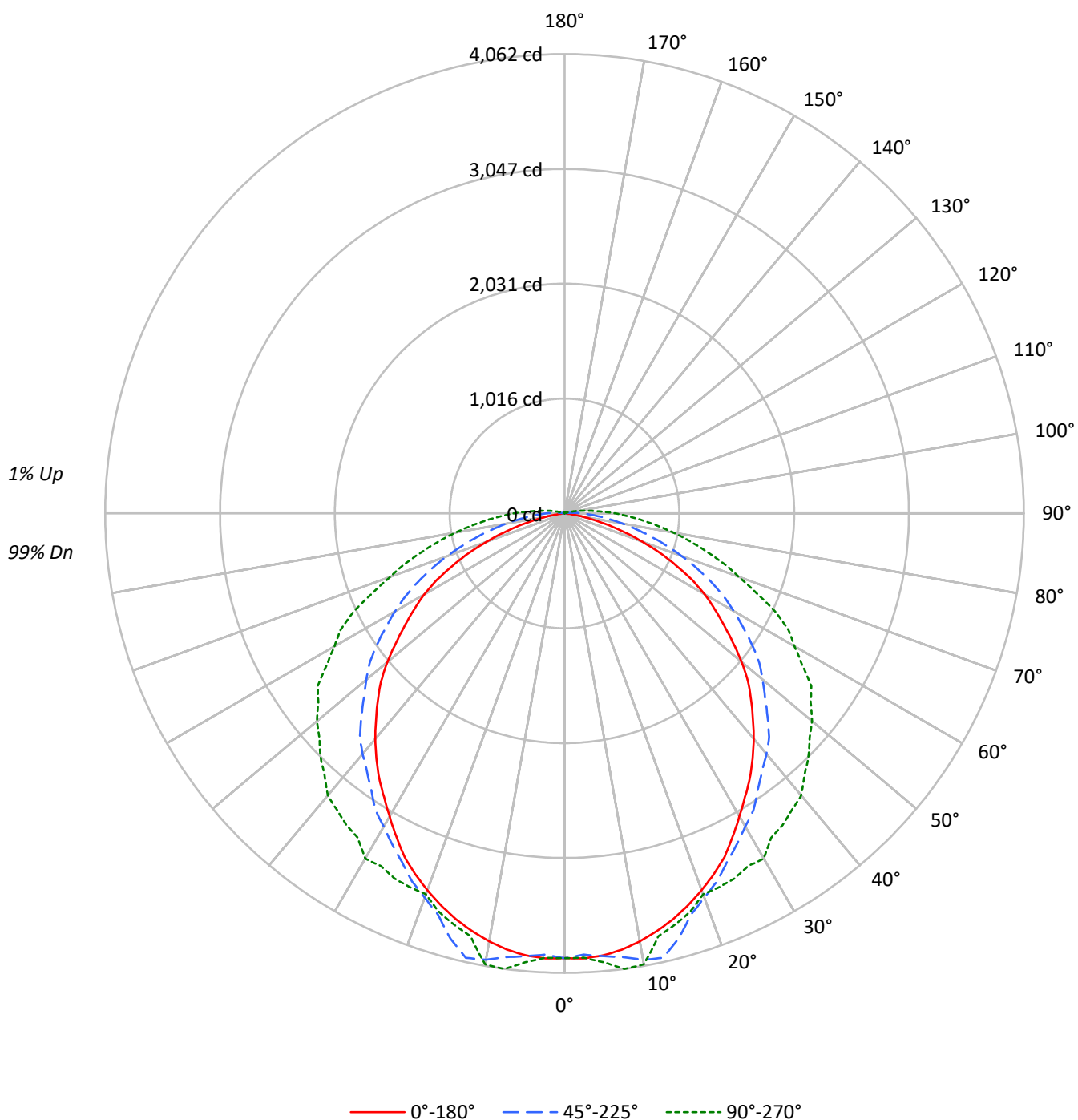
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	P3	10/30/2015	4/30/2016
Power Meter	IN0214	1/12/2016	1/12/2017
AC Power Source	IN0062	1/12/2016	1/12/2017
DC Power Supply	--	--	--
Room Thermometer	IN0145	1/13/2016	1/13/2017

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7937	7937	7937
5°	7933	7828	7898
10°	7843	7944	7947
15°	7715	7738	7376
20°	7556	7257	7054
25°	7387	6952	7098
30°	7122	6707	7176
35°	6939	6476	7050
40°	6741	6304	7093
45°	6529	6081	6965
50°	6268	5846	6912
55°	5877	5595	6908
60°	5587	5247	6613
65°	4977	4829	6402
70°	4105	4283	5741
75°	2979	3617	5241
80°	1723	2945	4705
85°	690	2251	4144

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6965 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	378.0	3.2
10°-20°	1076.3	9.1
20°-30°	1601.5	13.5
30°-40°	1925.0	16.2
40°-50°	2026.2	17.1
50°-60°	1880.1	15.9
60°-70°	1486.5	12.5
70°-80°	908.0	7.7
80°-90°	395.6	3.3
90°-100°	123.2	1.0
100°-110°	27.7	0.2
110°-120°	11.1	0.1
120°-130°	6.2	0.1
130°-140°	1.7	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	3055.8	25.8
0°-40°	4980.8	42.0
0°-60°	8887.0	75.0
0°-90°	11677.1	98.6
90°-120°	161.9	1.4
90°-150°	169.9	1.4
90°-180°	170.0	1.4
0°-180°	11847.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3933	3933	3933	3933	3933	
5°	3923	3915	3929	3973	3984	372
15°	3713	3856	3893	3764	3767	1046
25°	3349	3563	3401	3502	3559	1538
35°	2858	2937	2981	3252	3362	1786
45°	2335	2346	2539	2941	3051	1800
55°	1720	1748	2025	2468	2664	1545
65°	1089	1123	1427	1888	2060	1078
75°	412	546	796	1222	1299	449
85°	37	128	310	602	690	57
90°	1	38	163	381	449	2
95°	1	10	71	209	256	1
105°	1	6	14	41	58	1
115°	1	3	11	18	19	1
125°	1	2	5	12	17	1
135°	2	2	2	4	6	1
145°	0	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3932.6	3932.6	3932.6	3932.6	3932.6
2.5°	3937.4	3927.0	3905.3	3926.2	3931.8
5°	3922.9	3914.9	3928.6	3972.6	3983.8
7.5°	3890.1	3920.5	3956.6	4036.7	4062.3
10°	3841.2	3898.9	4007.1	4075.2	4048.7
12.5°	3782.0	3879.7	4024.7	3891.7	3830.0
15°	3713.1	3855.7	3893.3	3764.3	3766.7
17.5°	3632.2	3835.6	3719.5	3716.3	3693.0
20°	3544.8	3768.3	3614.5	3608.1	3583.3
22.5°	3451.1	3679.4	3521.6	3508.8	3576.1
25°	3349.4	3563.3	3400.6	3502.4	3559.3
27.5°	3222.0	3411.0	3299.7	3443.9	3515.2
30°	3093.0	3254.0	3196.4	3397.4	3524.0
32.5°	2972.1	3089.8	3111.4	3379.8	3400.6
35°	2857.5	2936.8	2980.9	3251.6	3362.2
37.5°	2731.7	2753.4	2870.3	3198.0	3304.5
40°	2603.5	2589.9	2777.4	3109.8	3257.2
42.5°	2465.8	2461.0	2678.9	3065.8	3139.5
45°	2335.2	2345.6	2538.7	2940.8	3050.6
47.5°	2201.4	2215.0	2405.7	2803.8	2940.0
50°	2046.0	2063.6	2287.1	2682.1	2857.5
52.5°	1877.8	1911.4	2171.8	2566.7	2743.7
55°	1719.9	1748.0	2025.2	2468.2	2664.4
57.5°	1575.7	1592.6	1873.8	2344.0	2492.2
60°	1434.0	1438.0	1731.2	2206.2	2348.0
62.5°	1271.3	1278.5	1584.6	2043.6	2233.4
65°	1088.7	1123.1	1426.7	1888.2	2059.6
67.5°	918.1	978.1	1265.7	1745.6	1835.3
70°	735.4	837.1	1107.9	1578.2	1641.4
72.5°	568.0	687.3	946.1	1390.7	1479.6
75°	411.8	545.5	795.5	1222.5	1299.4
77.5°	277.2	413.4	654.5	1036.6	1138.4
80°	165.8	302.0	528.7	864.4	978.9
82.5°	84.9	202.7	410.2	725.0	827.5
85°	36.9	128.2	310.0	601.6	690.5
87.5°	10.4	72.9	228.3	486.3	561.6
90°	0.8	38.5	162.6	381.3	449.4
92.5°	0.8	18.4	114.6	288.4	340.5
95°	0.8	9.6	71.3	209.1	255.5
97.5°	0.8	5.6	43.3	148.2	187.5
100°	0.8	4.8	25.6	98.5	133.8
102.5°	0.8	5.6	17.6	62.5	87.3
105°	0.8	5.6	14.4	40.9	57.7
107.5°	1.6	5.6	12.8	30.4	40.1
110°	0.8	4.8	13.6	23.2	31.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	4.0	12.8	19.2	23.2
115°	0.8	3.2	11.2	18.4	19.2
117.5°	1.6	2.4	8.8	18.4	19.2
120°	1.6	1.6	7.2	17.6	20.0
122.5°	1.6	1.6	5.6	16.0	19.2
125°	0.8	1.6	4.8	12.0	16.8
127.5°	1.6	1.6	4.0	9.6	12.8
130°	1.6	1.6	3.2	7.2	9.6
132.5°	1.6	1.6	2.4	5.6	7.2
135°	1.6	1.6	1.6	4.0	5.6
137.5°	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)