

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: P517976

Luminaire Tested: HVL8-2-LD4-3HI-50-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: P517976
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3HI-50-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7275.0 lumens
Efficiency: N/A
Efficacy: 115.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

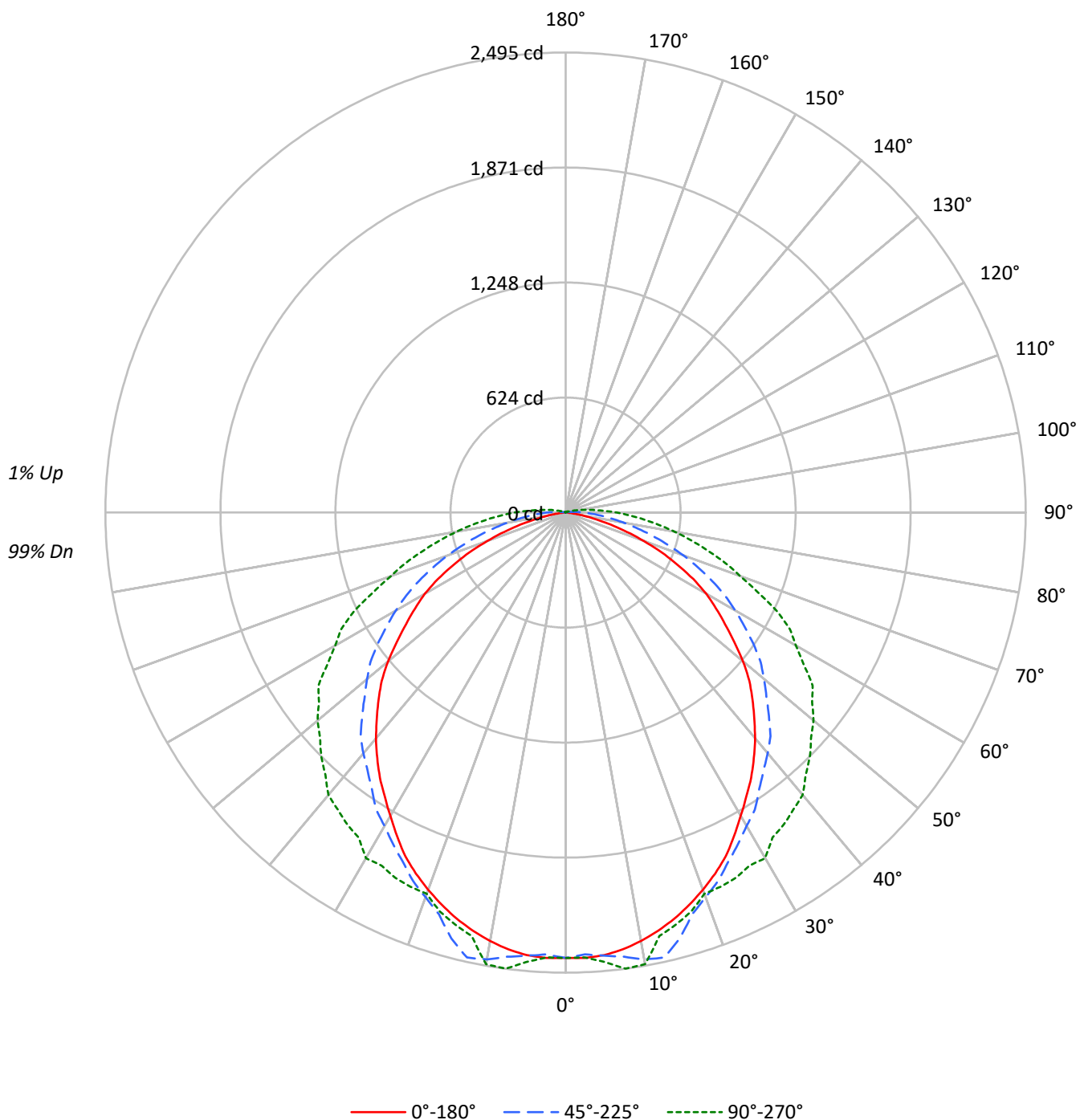
Input Watts (W): 63
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	30	10
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19495	19495	19495
5°	19381	19154	19401
10°	19056	19366	19520
15°	18640	18794	18118
20°	18150	17562	17327
25°	17636	16759	17436
30°	16893	16105	17628
35°	16339	15484	17315
40°	15748	15005	17423
45°	15112	14402	17109
50°	14354	13771	16978
55°	13284	13095	16969
60°	12424	12188	16245
65°	10833	11116	15727
70°	8673	9745	14103
75°	6017	8106	12874
80°	3214	6459	11557
85°	1072	4773	10180

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 17109 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.1	3.2
10°-20°	661.0	9.1
20°-30°	983.4	13.5
30°-40°	1182.1	16.2
40°-50°	1244.2	17.1
50°-60°	1154.5	15.9
60°-70°	912.8	12.5
70°-80°	557.6	7.7
80°-90°	242.9	3.3
90°-100°	75.6	1.0
100°-110°	17.0	0.2
110°-120°	6.8	0.1
120°-130°	3.8	0.1
130°-140°	1.0	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°	1876.5	25.8
0°-40°	3058.6	42.0
0°-60°	5457.3	75.0
0°-90°	7170.7	98.6
90°-120°	99.5	1.4
90°-150°	104.3	1.4
90°-180°	104.0	1.4
0°-180°	7275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2415	2415	2415	2415	2415	
5°	2409	2404	2412	2440	2446	228
15°	2280	2368	2391	2312	2313	642
25°	2057	2188	2088	2151	2186	944
35°	1755	1803	1830	1997	2065	1097
45°	1434	1440	1559	1806	1873	1105
55°	1056	1073	1244	1516	1636	949
65°	668	690	876	1160	1265	662
75°	253	335	488	751	798	276
85°	23	79	190	369	424	35
90°	0	24	100	234	276	1
95°	0	6	44	128	157	0
105°	0	3	9	25	35	1
115°	0	2	7	11	12	1
125°	0	1	3	7	10	1
135°	1	1	1	2	3	0
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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CATALOG NUMBER: HVL8-2-LD4-3HI-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2414.9	2414.9	2414.9	2414.9	2414.9
2.5°	2417.9	2411.5	2398.2	2411.0	2414.4
5°	2409.0	2404.1	2412.4	2439.5	2446.4
7.5°	2388.8	2407.5	2429.7	2478.9	2494.6
10°	2358.8	2394.2	2460.7	2502.5	2486.2
12.5°	2322.4	2382.4	2471.5	2389.8	2351.9
15°	2280.1	2367.7	2390.8	2311.6	2313.1
17.5°	2230.4	2355.4	2284.0	2282.1	2267.8
20°	2176.8	2314.1	2219.6	2215.7	2200.4
22.5°	2119.3	2259.5	2162.5	2154.7	2196.0
25°	2056.8	2188.1	2088.3	2150.7	2185.7
27.5°	1978.6	2094.7	2026.3	2114.8	2158.6
30°	1899.4	1998.2	1962.8	2086.3	2164.0
32.5°	1825.1	1897.4	1910.7	2075.5	2088.3
35°	1754.7	1803.4	1830.5	1996.8	2064.6
37.5°	1677.5	1690.8	1762.6	1963.8	2029.2
40°	1598.8	1590.4	1705.5	1909.7	2000.2
42.5°	1514.2	1511.2	1645.0	1882.6	1927.9
45°	1434.0	1440.4	1558.9	1805.9	1873.3
47.5°	1351.8	1360.2	1477.3	1721.8	1805.4
50°	1256.4	1267.2	1404.5	1647.0	1754.7
52.5°	1153.1	1173.8	1333.6	1576.2	1684.9
55°	1056.2	1073.4	1243.6	1515.6	1636.2
57.5°	967.6	978.0	1150.6	1439.4	1530.4
60°	880.6	883.0	1063.1	1354.8	1441.9
62.5°	780.7	785.1	973.0	1254.9	1371.5
65°	668.5	689.7	876.1	1159.5	1264.8
67.5°	563.8	600.7	777.3	1071.9	1127.0
70°	451.6	514.1	680.3	969.1	1008.0
72.5°	348.8	422.1	581.0	854.0	908.6
75°	252.9	335.0	488.5	750.7	797.9
77.5°	170.2	253.8	401.9	636.6	699.0
80°	101.8	185.5	324.7	530.8	601.1
82.5°	52.1	124.5	251.9	445.2	508.2
85°	22.6	78.7	190.4	369.4	424.0
87.5°	6.4	44.8	140.2	298.6	344.8
90°	0.5	23.6	99.9	234.2	276.0
92.5°	0.5	11.3	70.3	177.1	209.1
95°	0.5	5.9	43.8	128.4	156.9
97.5°	0.5	3.4	26.6	91.0	115.1
100°	0.5	3.0	15.7	60.5	82.2
102.5°	0.5	3.4	10.8	38.4	53.6
105°	0.5	3.4	8.9	25.1	35.4
107.5°	1.0	3.4	7.9	18.7	24.6
110°	0.5	3.0	8.4	14.3	19.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	2.5	7.9	11.8	14.3
115°	0.5	2.0	6.9	11.3	11.8
117.5°	1.0	1.5	5.4	11.3	11.8
120°	1.0	1.0	4.4	10.8	12.3
122.5°	1.0	1.0	3.4	9.8	11.8
125°	0.5	1.0	3.0	7.4	10.3
127.5°	1.0	1.0	2.5	5.9	7.9
130°	1.0	1.0	2.0	4.4	5.9
132.5°	1.0	1.0	1.5	3.4	4.4
135°	1.0	1.0	1.0	2.5	3.4
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)