

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: P518184

Luminaire Tested: HVL8-8-LD4-1LO-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: P518184
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-50-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5099.0 lumens
Efficiency: N/A
Efficacy: 110.8 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

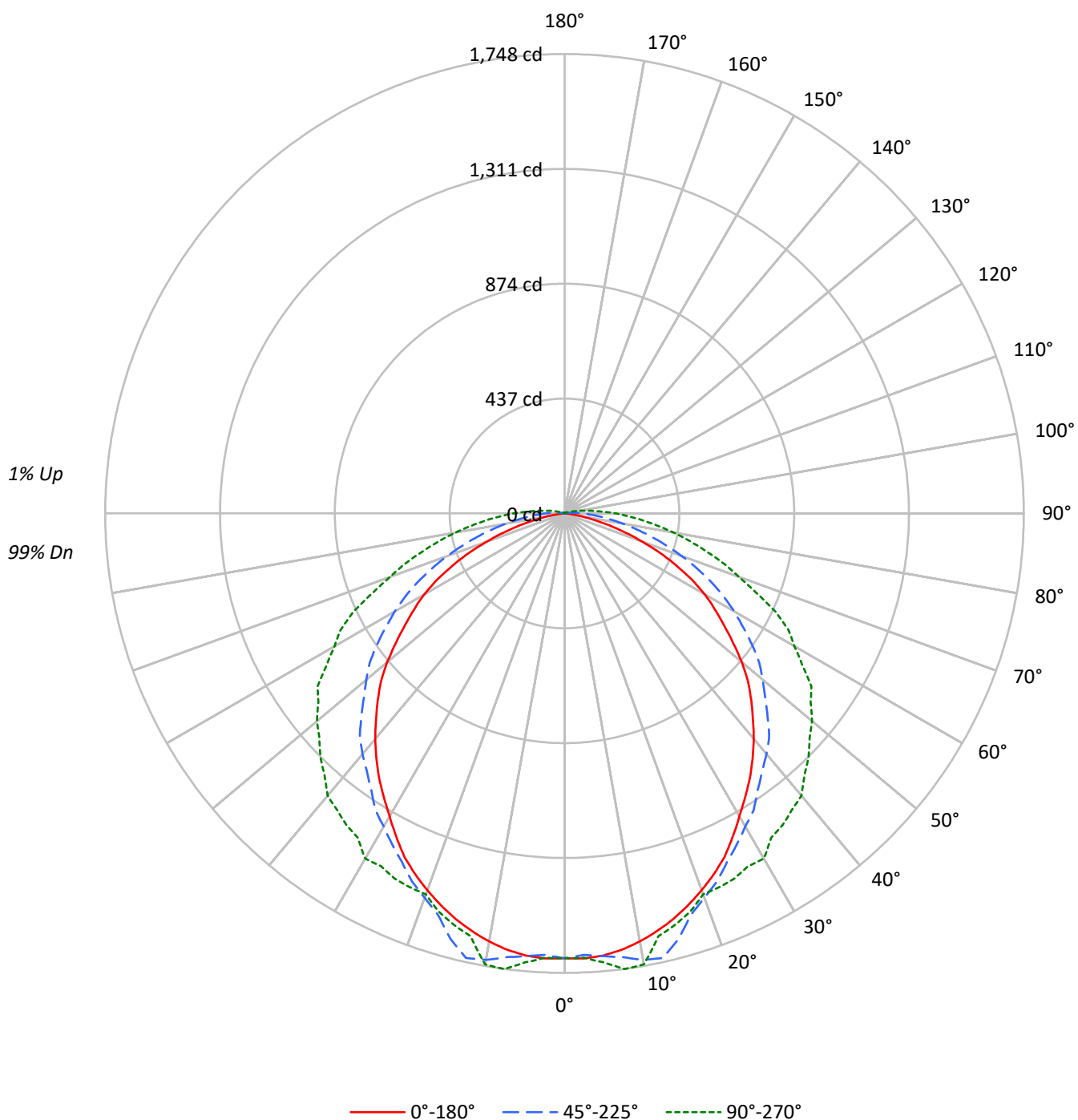
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	101	101	101			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69			67
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58			56
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38			36
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34			32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30			28
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27			25
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25			23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3416	3416	3416
5°	3415	3369	3400
10°	3376	3419	3420
15°	3321	3330	3175
20°	3252	3124	3036
25°	3179	2992	3055
30°	3065	2887	3089
35°	2987	2787	3034
40°	2902	2713	3053
45°	2810	2617	2998
50°	2698	2516	2975
55°	2530	2408	2973
60°	2405	2258	2846
65°	2142	2079	2756
70°	1767	1843	2471
75°	1282	1557	2256
80°	742	1268	2025
85°	297	969	1784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 2998 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.7	3.2
10°-20°	463.3	9.1
20°-30°	689.3	13.5
30°-40°	828.5	16.2
40°-50°	872.1	17.1
50°-60°	809.2	15.9
60°-70°	639.8	12.5
70°-80°	390.8	7.7
80°-90°	170.3	3.3
90°-100°	53.0	1.0
100°-110°	11.9	0.2
110°-120°	4.8	0.1
120°-130°	2.7	0.1
130°-140°	0.7	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°	1315.2	25.8
0°-40°	2143.7	42.0
0°-60°	3825.0	75.0
0°-90°	5025.9	98.6
90°-120°	69.7	1.4
90°-150°	73.1	1.4
90°-180°	73.0	1.4
0°-180°	5099.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1693	1693	1693	1693	1693	
5°	1688	1685	1691	1710	1715	160
15°	1598	1660	1676	1620	1621	450
25°	1442	1534	1464	1507	1532	662
35°	1230	1264	1283	1400	1447	769
45°	1005	1010	1093	1266	1313	775
55°	740	752	872	1062	1147	665
65°	469	483	614	813	886	464
75°	177	235	342	526	559	193
85°	16	55	133	259	297	25
90°	0	17	70	164	193	1
95°	0	4	31	90	110	0
105°	0	2	6	18	25	0
115°	0	1	5	8	8	1
125°	0	1	2	5	7	1
135°	1	1	1	2	2	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1692.6	1692.6	1692.6	1692.6	1692.6
2.5°	1694.7	1690.2	1680.9	1689.8	1692.2
5°	1688.5	1685.0	1690.9	1709.8	1714.7
7.5°	1674.3	1687.4	1702.9	1737.4	1748.4
10°	1653.3	1678.1	1724.7	1754.0	1742.6
12.5°	1627.8	1669.8	1732.2	1675.0	1648.5
15°	1598.1	1659.5	1675.7	1620.2	1621.2
17.5°	1563.3	1650.9	1600.9	1599.5	1589.5
20°	1525.7	1621.9	1555.7	1552.9	1542.3
22.5°	1485.4	1583.6	1515.7	1510.2	1539.2
25°	1441.6	1533.6	1463.6	1507.4	1531.9
27.5°	1386.8	1468.1	1420.2	1482.3	1513.0
30°	1331.2	1400.6	1375.7	1462.3	1516.7
32.5°	1279.2	1329.9	1339.2	1454.7	1463.6
35°	1229.9	1264.0	1283.0	1399.5	1447.1
37.5°	1175.7	1185.1	1235.4	1376.4	1422.3
40°	1120.6	1114.7	1195.4	1338.5	1401.9
42.5°	1061.3	1059.2	1153.0	1319.5	1351.2
45°	1005.1	1009.6	1092.7	1265.7	1313.0
47.5°	947.5	953.4	1035.4	1206.8	1265.4
50°	880.6	888.2	984.4	1154.4	1229.9
52.5°	808.2	822.7	934.7	1104.7	1180.9
55°	740.3	752.3	871.6	1062.3	1146.8
57.5°	678.2	685.4	806.5	1008.9	1072.7
60°	617.2	618.9	745.1	949.6	1010.6
62.5°	547.2	550.3	682.0	879.6	961.3
65°	468.6	483.4	614.1	812.7	886.5
67.5°	395.1	421.0	544.8	751.3	789.9
70°	316.5	360.3	476.8	679.2	706.5
72.5°	244.5	295.8	407.2	598.6	636.8
75°	177.2	234.8	342.4	526.2	559.3
77.5°	119.3	177.9	281.7	446.2	490.0
80°	71.4	130.0	227.6	372.0	421.3
82.5°	36.5	87.2	176.5	312.0	356.2
85°	15.9	55.2	133.4	258.9	297.2
87.5°	4.5	31.4	98.3	209.3	241.7
90°	0.3	16.6	70.0	164.1	193.4
92.5°	0.3	7.9	49.3	124.1	146.5
95°	0.3	4.1	30.7	90.0	110.0
97.5°	0.3	2.4	18.6	63.8	80.7
100°	0.3	2.1	11.0	42.4	57.6
102.5°	0.3	2.4	7.6	26.9	37.6
105°	0.3	2.4	6.2	17.6	24.8
107.5°	0.7	2.4	5.5	13.1	17.2
110°	0.3	2.1	5.9	10.0	13.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.7	1.7	5.5	8.3	10.0
115°	0.3	1.4	4.8	7.9	8.3
117.5°	0.7	1.0	3.8	7.9	8.3
120°	0.7	0.7	3.1	7.6	8.6
122.5°	0.7	0.7	2.4	6.9	8.3
125°	0.3	0.7	2.1	5.2	7.2
127.5°	0.7	0.7	1.7	4.1	5.5
130°	0.7	0.7	1.4	3.1	4.1
132.5°	0.7	0.7	1.0	2.4	3.1
135°	0.7	0.7	0.7	1.7	2.4
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)