

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: P518183

Luminaire Tested: HVL8-8-LD4-1LO-50-UNV-C-EDD-90

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: P518183
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-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5861.0 lumens
Efficiency: N/A
Efficacy: 127.4 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

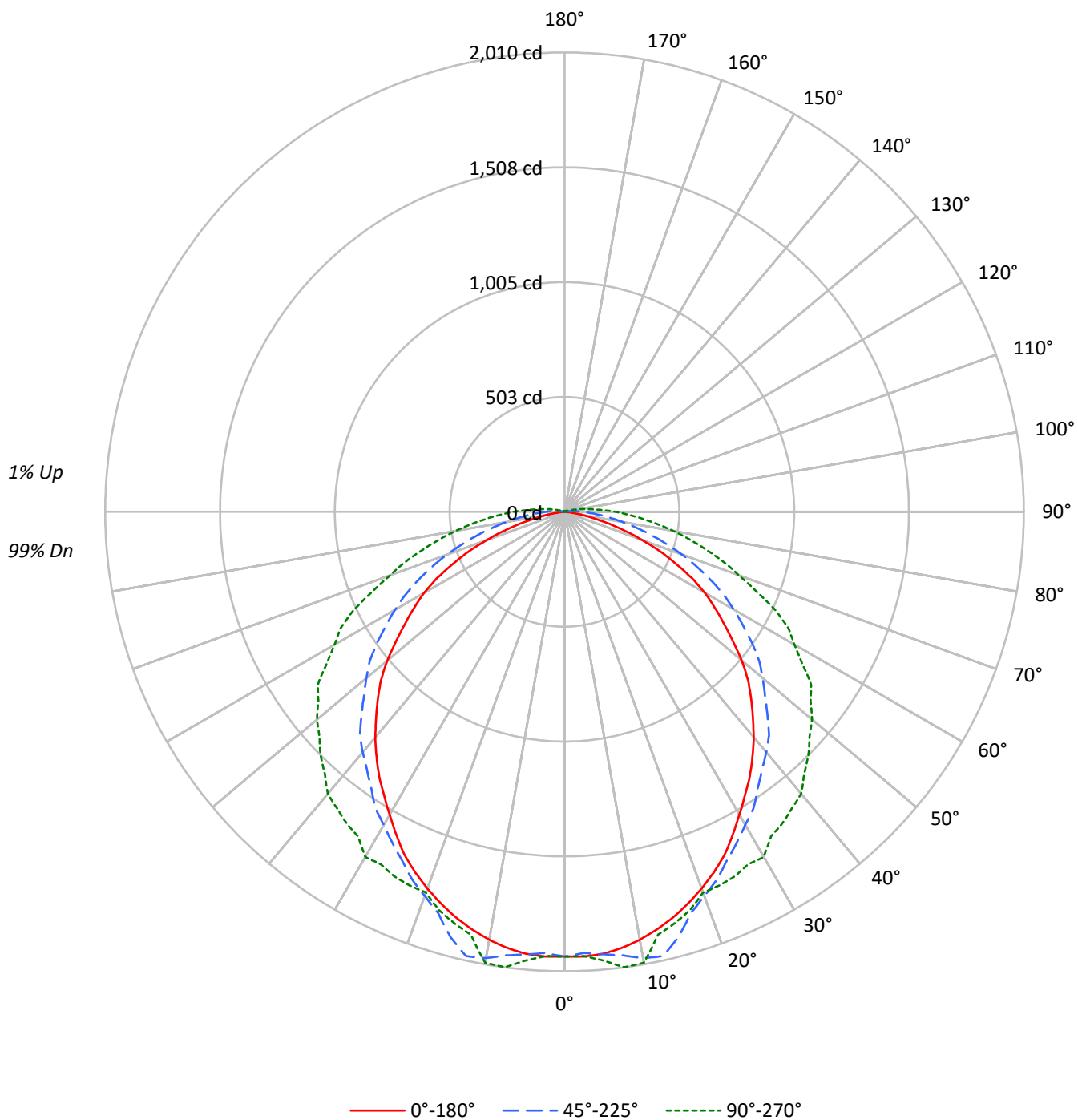
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3926	3926	3926
5°	3925	3873	3907
10°	3880	3930	3932
15°	3817	3828	3649
20°	3738	3590	3490
25°	3654	3439	3512
30°	3524	3318	3550
35°	3433	3204	3488
40°	3335	3119	3509
45°	3230	3008	3446
50°	3101	2892	3420
55°	2908	2768	3418
60°	2764	2596	3272
65°	2462	2389	3167
70°	2031	2119	2841
75°	1474	1789	2593
80°	852	1457	2328
85°	340	1114	2050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3446 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.0	3.2
10°-20°	532.5	9.1
20°-30°	792.3	13.5
30°-40°	952.3	16.2
40°-50°	1002.4	17.1
50°-60°	930.1	15.9
60°-70°	735.4	12.5
70°-80°	449.2	7.7
80°-90°	195.7	3.3
90°-100°	60.9	1.0
100°-110°	13.7	0.2
110°-120°	5.5	0.1
120°-130°	3.1	0.1
130°-140°	0.8	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°	1511.8	25.8
0°-40°	2464.1	42.0
0°-60°	4396.6	75.0
0°-90°	5776.9	98.6
90°-120°	80.1	1.4
90°-150°	84.1	1.4
90°-180°	84.0	1.4
0°-180°	5861.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1941	1937	1944	1965	1971	184
15°	1837	1908	1926	1862	1864	517
25°	1657	1763	1682	1733	1761	761
35°	1414	1453	1475	1609	1663	884
45°	1155	1160	1256	1455	1509	891
55°	851	865	1002	1221	1318	765
65°	539	556	706	934	1019	533
75°	204	270	394	605	643	222
85°	18	63	153	298	342	28
90°	0	19	80	189	222	1
95°	0	5	35	103	126	0
105°	0	3	7	20	28	1
115°	0	2	6	9	10	1
125°	0	1	2	6	8	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.5	1945.5	1945.5	1945.5	1945.5
2.5°	1947.9	1942.8	1932.1	1942.4	1945.1
5°	1940.8	1936.8	1943.6	1965.3	1970.9
7.5°	1924.5	1939.6	1957.4	1997.1	2009.7
10°	1900.4	1928.9	1982.4	2016.1	2003.0
12.5°	1871.0	1919.4	1991.1	1925.3	1894.8
15°	1836.9	1907.5	1926.1	1862.3	1863.5
17.5°	1796.9	1897.6	1840.1	1838.5	1827.0
20°	1753.7	1864.3	1788.2	1785.0	1772.7
22.5°	1707.3	1820.3	1742.2	1735.9	1769.2
25°	1657.0	1762.8	1682.4	1732.7	1760.8
27.5°	1594.0	1687.5	1632.4	1703.8	1739.1
30°	1530.2	1609.9	1581.3	1680.8	1743.4
32.5°	1470.3	1528.6	1539.3	1672.1	1682.4
35°	1413.7	1452.9	1474.7	1608.7	1663.4
37.5°	1351.5	1362.2	1420.0	1582.1	1634.8
40°	1288.0	1281.3	1374.0	1538.5	1611.4
42.5°	1219.9	1217.5	1325.3	1516.7	1553.2
45°	1155.3	1160.4	1255.9	1454.9	1509.2
47.5°	1089.1	1095.8	1190.1	1387.1	1454.5
50°	1012.2	1020.9	1131.5	1326.9	1413.7
52.5°	929.0	945.6	1074.4	1269.8	1357.4
55°	850.9	864.8	1001.9	1221.1	1318.2
57.5°	779.6	787.9	927.0	1159.6	1233.0
60°	709.4	711.4	856.4	1091.5	1161.6
62.5°	629.0	632.5	783.9	1011.0	1104.9
65°	538.6	555.6	705.8	934.1	1018.9
67.5°	454.2	483.9	626.2	863.6	908.0
70°	363.8	414.2	548.1	780.7	812.1
72.5°	281.0	340.0	468.1	688.0	732.0
75°	203.7	269.9	393.5	604.8	642.8
77.5°	137.1	204.5	323.8	512.8	563.2
80°	82.0	149.4	261.6	427.6	484.3
82.5°	42.0	100.3	202.9	358.7	409.4
85°	18.2	63.4	153.4	297.6	341.6
87.5°	5.2	36.1	113.0	240.6	277.8
90°	0.4	19.0	80.5	188.6	222.3
92.5°	0.4	9.1	56.7	142.7	168.4
95°	0.4	4.8	35.3	103.4	126.4
97.5°	0.4	2.8	21.4	73.3	92.7
100°	0.4	2.4	12.7	48.7	66.2
102.5°	0.4	2.8	8.7	30.9	43.2
105°	0.4	2.8	7.1	20.2	28.5
107.5°	0.8	2.8	6.3	15.1	19.8
110°	0.4	2.4	6.7	11.5	15.5

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CATALOG NUMBER: HVL8-8-LD4-1LO-50-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	2.0	6.3	9.5	11.5
115°	0.4	1.6	5.5	9.1	9.5
117.5°	0.8	1.2	4.4	9.1	9.5
120°	0.8	0.8	3.6	8.7	9.9
122.5°	0.8	0.8	2.8	7.9	9.5
125°	0.4	0.8	2.4	5.9	8.3
127.5°	0.8	0.8	2.0	4.8	6.3
130°	0.8	0.8	1.6	3.6	4.8
132.5°	0.8	0.8	1.2	2.8	3.6
135°	0.8	0.8	0.8	2.0	2.8
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)