

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: P518202

Luminaire Tested: HVL8-8-LD4-1STD-50-UNV-O-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: P518202
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-50-UNV-O-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: 5948.0 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

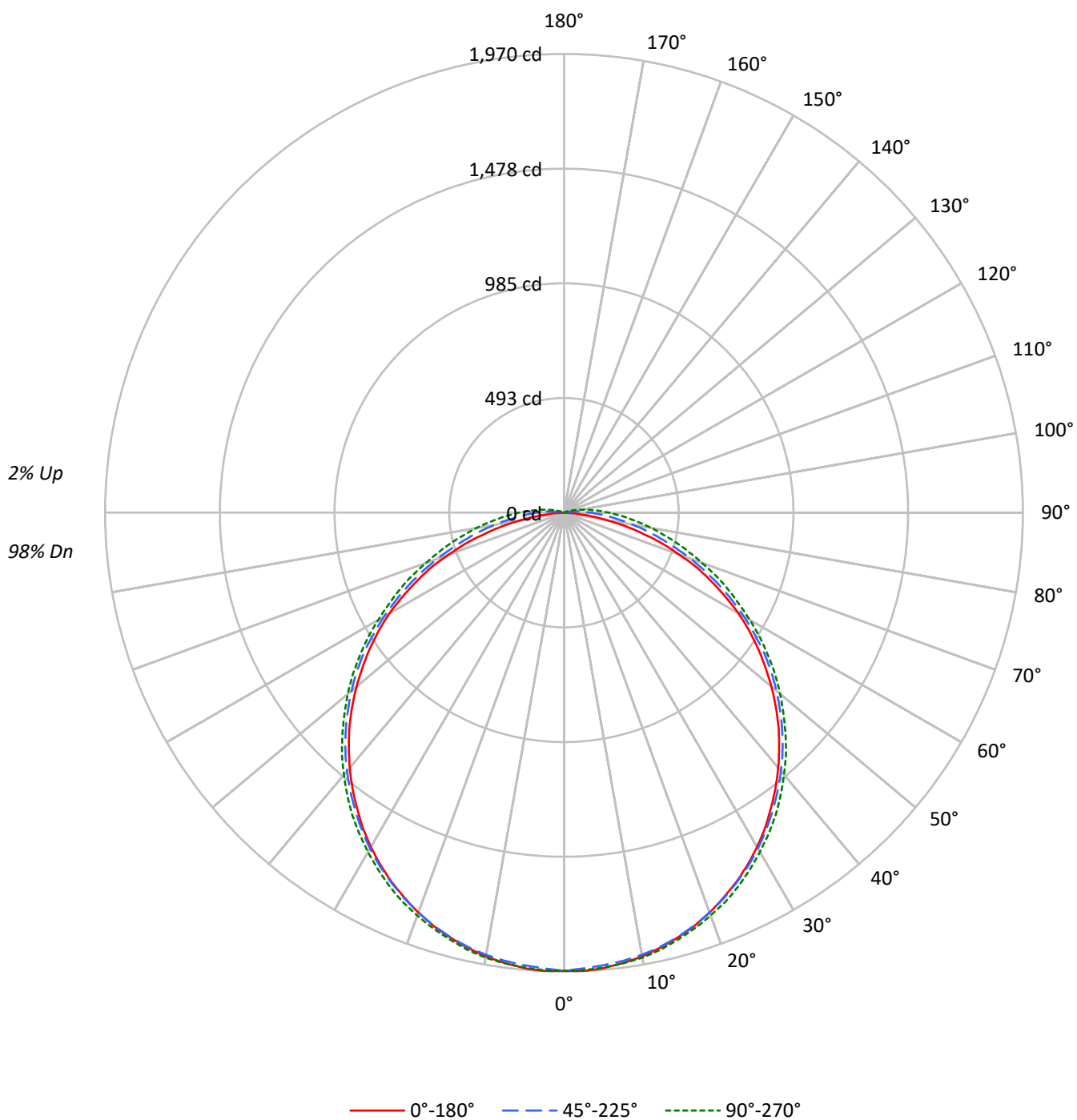
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	3970	3970	3970
5°	3970	3886	3885
10°	3951	3822	3808
15°	3924	3749	3714
20°	3895	3668	3623
25°	3859	3584	3531
30°	3817	3494	3426
35°	3761	3394	3322
40°	3705	3289	3201
45°	3643	3175	3071
50°	3562	3042	2930
55°	3475	2896	2775
60°	3371	2704	2594
65°	3195	2490	2415
70°	2935	2236	2206
75°	2560	1957	2016
80°	1986	1685	1843
85°	1145	1411	1678

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3643 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.2	3.1
10°-20°	534.0	9.0
20°-30°	810.2	13.6
30°-40°	979.7	16.5
40°-50°	1022.3	17.2
50°-60°	934.7	15.7
60°-70°	728.6	12.2
70°-80°	455.8	7.7
80°-90°	207.0	3.5
90°-100°	69.4	1.2
100°-110°	17.4	0.3
110°-120°	2.8	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	1530.4	25.7
0°-40°	2510.1	42.2
0°-60°	4467.0	75.1
0°-90°	5858.4	98.5
90°-120°	89.6	1.5
90°-150°	89.6	1.5
90°-180°	90.0	1.5
0°-180°	5948.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1967	1967	1967	1967	1967	
5°	1963	1959	1950	1960	1960	186
15°	1888	1892	1886	1897	1897	533
25°	1750	1751	1753	1768	1771	806
35°	1549	1556	1562	1578	1585	969
45°	1303	1315	1325	1338	1345	1004
55°	1017	1029	1048	1063	1070	909
65°	699	711	736	765	777	692
75°	354	376	430	482	500	377
85°	61	113	194	257	280	77
90°	0	42	114	172	193	2
95°	0	11	59	108	124	0
105°	1	1	10	29	38	1
115°	1	1	2	5	7	1
125°	0	0	0	0	0	0
135°	0	0	0	0	0	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°	1967.2	1967.2	1967.2	1967.2	1967.2
2.5°	1969.6	1966.8	1958.0	1966.8	1966.3
5°	1963.1	1959.4	1950.5	1959.8	1959.8
7.5°	1950.1	1948.7	1940.8	1951.5	1951.5
10°	1934.8	1934.3	1927.8	1939.4	1939.9
12.5°	1913.4	1915.3	1909.3	1920.4	1921.8
15°	1888.4	1891.6	1886.5	1897.2	1896.7
17.5°	1861.0	1862.9	1859.2	1871.2	1870.8
20°	1827.2	1829.5	1826.7	1839.2	1840.6
22.5°	1789.6	1792.9	1792.4	1805.4	1809.1
25°	1749.7	1751.1	1753.0	1767.8	1770.6
27.5°	1705.7	1708.0	1711.2	1724.7	1727.5
30°	1657.5	1661.2	1664.9	1678.8	1682.5
32.5°	1606.4	1610.1	1614.8	1632.9	1634.7
35°	1548.9	1555.9	1562.4	1578.2	1584.6
37.5°	1491.4	1500.2	1506.3	1523.0	1528.1
40°	1430.7	1439.5	1449.2	1466.8	1470.1
42.5°	1367.1	1377.3	1388.9	1404.7	1410.3
45°	1303.1	1314.7	1325.4	1338.4	1344.9
47.5°	1234.0	1245.6	1258.6	1273.5	1277.6
50°	1162.6	1176.1	1190.0	1203.9	1211.3
52.5°	1089.4	1105.6	1121.4	1136.2	1143.2
55°	1017.0	1029.1	1048.1	1063.4	1070.3
57.5°	941.9	952.1	969.2	994.3	998.0
60°	865.4	874.6	892.3	912.7	921.0
62.5°	781.0	793.5	812.0	838.0	845.4
65°	698.9	710.9	735.5	764.7	776.8
67.5°	619.6	623.7	655.3	685.9	705.4
70°	525.9	541.7	578.3	615.9	630.7
72.5°	445.2	461.0	501.3	545.4	563.9
75°	353.8	375.6	430.4	481.8	499.9
77.5°	273.6	297.7	365.4	417.4	438.2
80°	191.1	228.6	302.4	360.8	383.5
82.5°	120.1	166.5	245.3	306.5	326.5
85°	61.2	113.2	194.3	256.9	279.6
87.5°	16.2	73.3	151.2	211.0	234.2
90°	0.5	42.2	114.5	172.1	192.9
92.5°	0.5	23.7	85.3	136.8	158.1
95°	0.5	11.1	59.4	107.6	124.3
97.5°	0.5	4.6	40.8	81.2	97.9
100°	0.5	2.3	26.0	58.9	73.3
102.5°	0.9	1.4	16.2	42.2	53.8
105°	0.9	1.4	9.7	28.8	38.5
107.5°	0.9	1.4	5.6	19.5	26.4
110°	1.4	1.4	3.2	12.1	17.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	1.4	1.9	7.9	11.6
115°	1.4	1.4	1.9	5.1	7.4
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)