

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: P518196

Luminaire Tested: HVL8-8-LD4-1STD-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: P518196
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1STD-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: 6238.0 lumens
Efficiency: N/A
Efficacy: 95.7 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

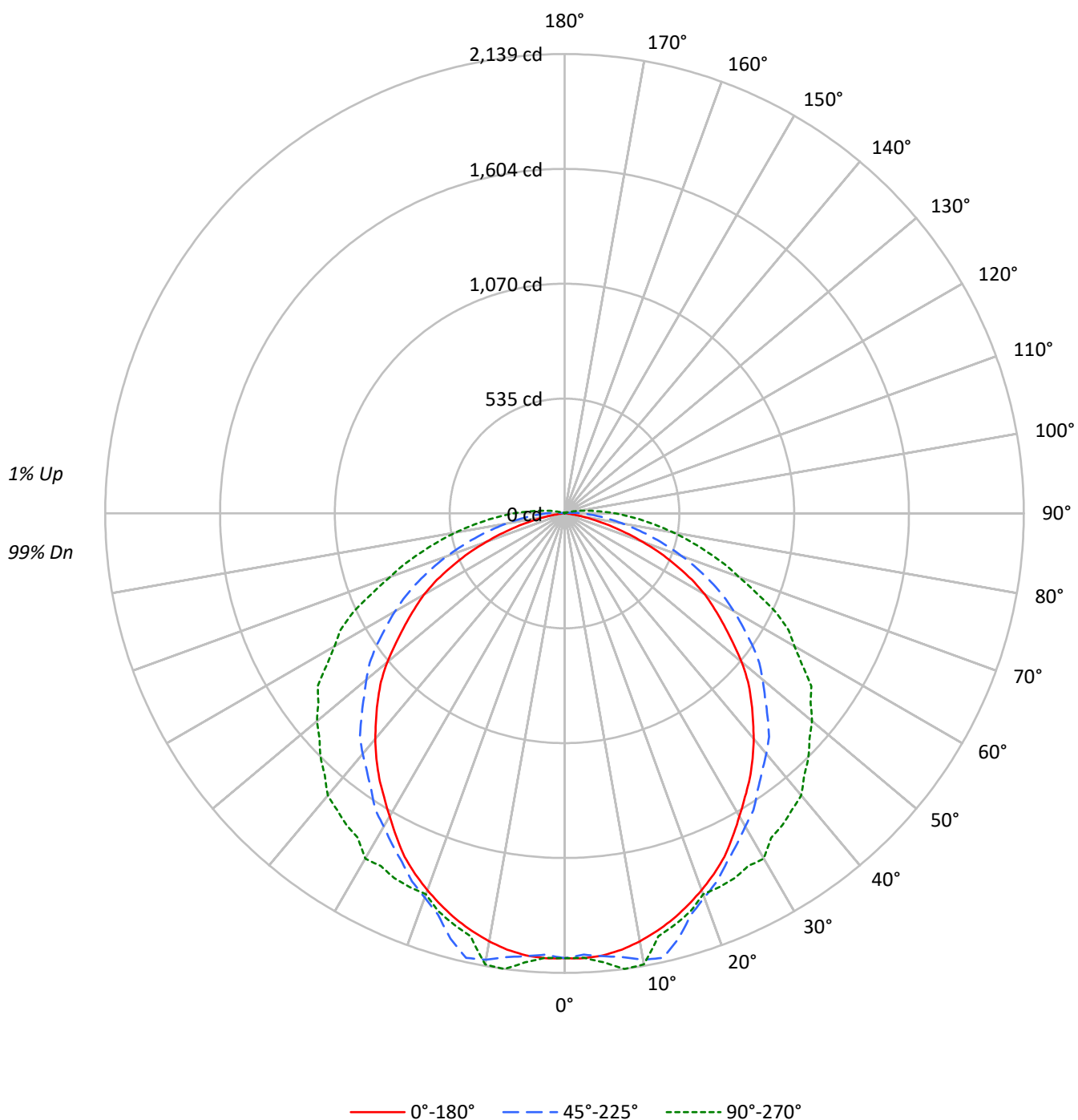
Input Watts (W): 65.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	4179	4179	4179
5°	4177	4122	4159
10°	4130	4183	4184
15°	4062	4074	3884
20°	3979	3821	3714
25°	3890	3660	3738
30°	3750	3532	3779
35°	3654	3410	3712
40°	3550	3319	3735
45°	3438	3202	3668
50°	3301	3079	3640
55°	3094	2946	3637
60°	2941	2763	3482
65°	2620	2543	3371
70°	2161	2256	3023
75°	1569	1905	2760
80°	907	1551	2478
85°	363	1185	2182

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3668 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.0	3.2
10°-20°	566.7	9.1
20°-30°	843.3	13.5
30°-40°	1013.6	16.2
40°-50°	1066.9	17.1
50°-60°	989.9	15.9
60°-70°	782.7	12.5
70°-80°	478.1	7.7
80°-90°	208.3	3.3
90°-100°	64.8	1.0
100°-110°	14.6	0.2
110°-120°	5.8	0.1
120°-130°	3.3	0.1
130°-140°	0.9	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°	1609.0	25.8
0°-40°	2622.6	42.0
0°-60°	4679.4	75.0
0°-90°	6148.5	98.6
90°-120°	85.3	1.4
90°-150°	89.4	1.4
90°-180°	89.0	1.4
0°-180°	6238.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2071	2071	2071	2071	2071	
5°	2066	2061	2069	2092	2098	196
15°	1955	2030	2050	1982	1983	551
25°	1764	1876	1791	1844	1874	810
35°	1505	1546	1570	1712	1770	940
45°	1230	1235	1337	1548	1606	948
55°	906	920	1066	1300	1403	814
65°	573	591	751	994	1084	568
75°	217	287	419	644	684	237
85°	19	68	163	317	364	30
90°	0	20	86	201	237	1
95°	0	5	38	110	135	0
105°	0	3	8	22	30	1
115°	0	2	6	10	10	1
125°	0	1	2	6	9	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°	2070.7	2070.7	2070.7	2070.7	2070.7
2.5°	2073.2	2067.7	2056.3	2067.3	2070.3
5°	2065.6	2061.4	2068.6	2091.8	2097.7
7.5°	2048.3	2064.3	2083.3	2125.5	2139.0
10°	2022.6	2053.0	2109.9	2145.8	2131.8
12.5°	1991.4	2042.8	2119.2	2049.2	2016.7
15°	1955.1	2030.2	2050.0	1982.1	1983.4
17.5°	1912.5	2019.6	1958.5	1956.8	1944.6
20°	1866.5	1984.2	1903.2	1899.8	1886.8
22.5°	1817.2	1937.4	1854.3	1847.5	1883.0
25°	1763.6	1876.2	1790.6	1844.2	1874.1
27.5°	1696.5	1796.1	1737.4	1813.4	1850.9
30°	1628.6	1713.4	1683.0	1788.9	1855.6
32.5°	1564.9	1626.9	1638.3	1779.6	1790.6
35°	1504.6	1546.4	1569.6	1712.1	1770.3
37.5°	1438.4	1449.8	1511.4	1683.9	1740.0
40°	1370.9	1363.7	1462.4	1637.5	1715.1
42.5°	1298.3	1295.8	1410.5	1614.3	1653.1
45°	1229.6	1235.1	1336.7	1548.5	1606.3
47.5°	1159.1	1166.3	1266.7	1476.3	1548.1
50°	1077.3	1086.6	1204.3	1412.2	1504.6
52.5°	988.7	1006.4	1143.5	1351.5	1444.7
55°	905.6	920.4	1066.3	1299.6	1402.9
57.5°	829.7	838.6	986.6	1234.2	1312.3
60°	755.0	757.2	911.5	1161.7	1236.3
62.5°	669.4	673.2	834.3	1076.0	1176.0
65°	573.2	591.4	751.2	994.2	1084.5
67.5°	483.4	515.0	666.5	919.1	966.4
70°	387.2	440.8	583.4	831.0	864.3
72.5°	299.1	361.9	498.2	732.3	779.1
75°	216.8	287.3	418.9	643.7	684.2
77.5°	145.9	217.7	344.6	545.8	599.4
80°	87.3	159.0	278.4	455.1	515.5
82.5°	44.7	106.7	216.0	381.7	435.7
85°	19.4	67.5	163.2	316.8	363.6
87.5°	5.5	38.4	120.2	256.0	295.7
90°	0.4	20.2	85.6	200.8	236.6
92.5°	0.4	9.7	60.3	151.9	179.3
95°	0.4	5.1	37.5	110.1	134.6
97.5°	0.4	3.0	22.8	78.0	98.7
100°	0.4	2.5	13.5	51.9	70.4
102.5°	0.4	3.0	9.3	32.9	46.0
105°	0.4	3.0	7.6	21.5	30.4
107.5°	0.8	3.0	6.7	16.0	21.1
110°	0.4	2.5	7.2	12.2	16.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	2.1	6.7	10.1	12.2
115°	0.4	1.7	5.9	9.7	10.1
117.5°	0.8	1.3	4.6	9.7	10.1
120°	0.8	0.8	3.8	9.3	10.5
122.5°	0.8	0.8	3.0	8.4	10.1
125°	0.4	0.8	2.5	6.3	8.9
127.5°	0.8	0.8	2.1	5.1	6.7
130°	0.8	0.8	1.7	3.8	5.1
132.5°	0.8	0.8	1.3	3.0	3.8
135°	0.8	0.8	0.8	2.1	3.0
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)