

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: P517620

Luminaire Tested: HVL12-8-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: P517620
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1STD-40-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6513.0 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

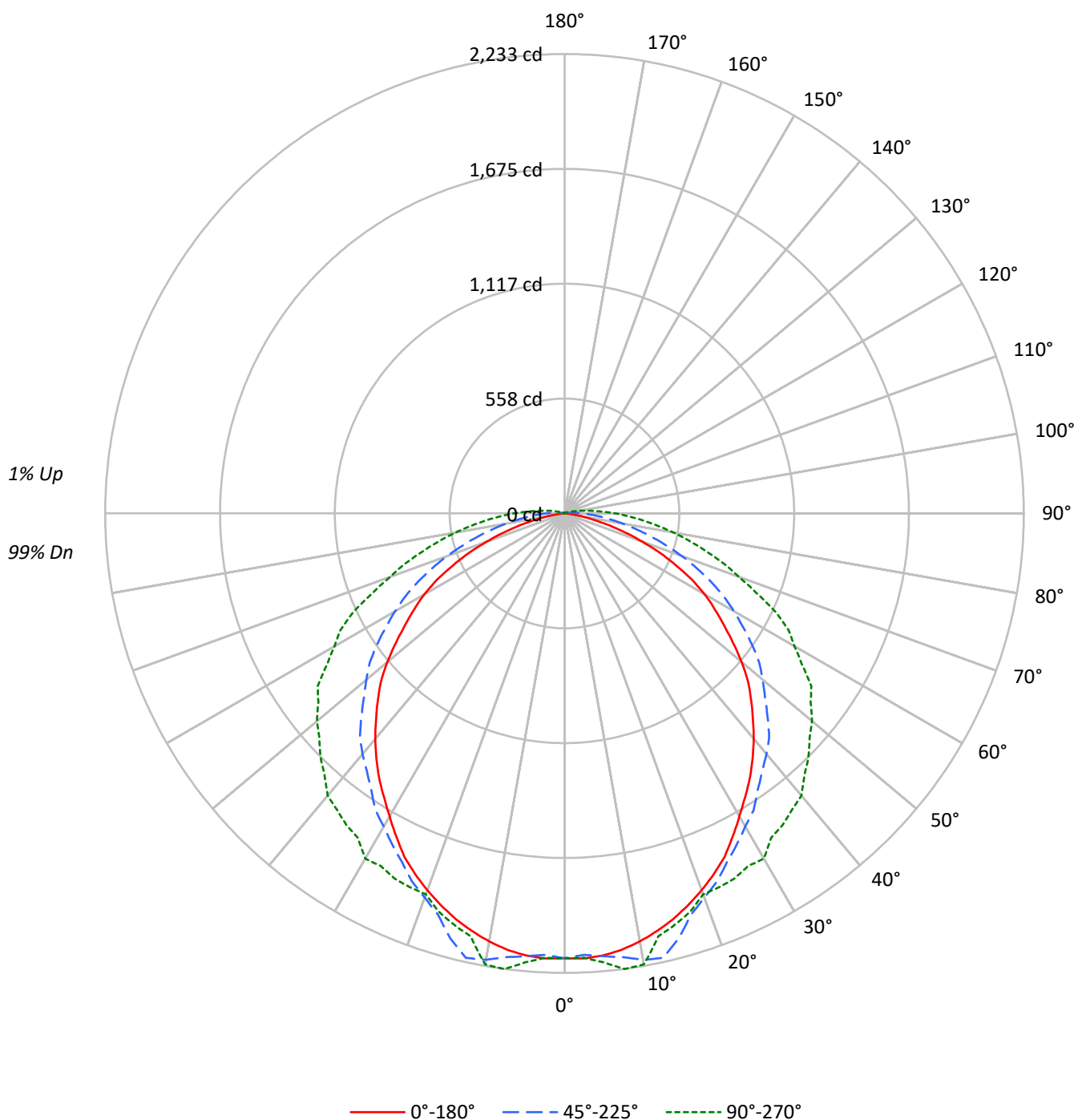
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2909	2909	2909
5°	2908	2884	2915
10°	2875	2941	2954
15°	2828	2879	2761
20°	2769	2714	2659
25°	2707	2614	2695
30°	2610	2536	2746
35°	2543	2463	2719
40°	2471	2413	2759
45°	2393	2345	2735
50°	2297	2273	2743
55°	2154	2196	2775
60°	2047	2083	2695
65°	1824	1944	2656
70°	1504	1756	2435
75°	1092	1521	2289
80°	632	1286	2144
85°	253	1046	2017

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2775 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.8	3.2
10°-20°	591.7	9.1
20°-30°	880.4	13.5
30°-40°	1058.3	16.2
40°-50°	1113.9	17.1
50°-60°	1033.6	15.9
60°-70°	817.2	12.5
70°-80°	499.2	7.7
80°-90°	217.5	3.3
90°-100°	67.7	1.0
100°-110°	15.2	0.2
110°-120°	6.1	0.1
120°-130°	3.4	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°	1680.0	25.8
0°-40°	2738.2	42.0
0°-60°	4885.7	75.0
0°-90°	6419.6	98.6
90°-120°	89.0	1.4
90°-150°	93.4	1.4
90°-180°	93.0	1.4
0°-180°	6513.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2162	2162	2162	2162	2162	
5°	2157	2152	2160	2184	2190	204
15°	2041	2120	2140	2070	2071	575
25°	1841	1959	1870	1926	1957	845
35°	1571	1614	1639	1788	1848	982
45°	1284	1290	1396	1617	1677	990
55°	946	961	1113	1357	1465	850
65°	598	618	784	1038	1132	593
75°	226	300	437	672	714	247
85°	20	70	170	331	380	31
90°	0	21	89	210	247	1
95°	0	5	39	115	140	0
105°	0	3	8	22	32	1
115°	0	2	6	10	11	1
125°	0	1	3	7	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°	2162.0	2162.0	2162.0	2162.0	2162.0
2.5°	2164.6	2158.9	2147.0	2158.4	2161.5
5°	2156.7	2152.3	2159.8	2184.0	2190.1
7.5°	2138.6	2155.4	2175.2	2219.2	2233.3
10°	2111.8	2143.5	2202.9	2240.4	2225.8
12.5°	2079.2	2132.9	2212.6	2139.5	2105.6
15°	2041.3	2119.7	2140.4	2069.5	2070.8
17.5°	1996.8	2108.7	2044.8	2043.1	2030.3
20°	1948.8	2071.7	1987.1	1983.6	1969.9
22.5°	1897.3	2022.8	1936.0	1929.0	1966.0
25°	1841.3	1958.9	1869.5	1925.5	1956.7
27.5°	1771.3	1875.3	1814.0	1893.3	1932.5
30°	1700.4	1788.9	1757.2	1867.8	1937.4
32.5°	1633.9	1698.7	1710.5	1858.1	1869.5
35°	1570.9	1614.5	1638.8	1787.6	1848.4
37.5°	1501.8	1513.7	1578.0	1758.1	1816.7
40°	1431.3	1423.8	1526.9	1709.7	1790.7
42.5°	1355.6	1352.9	1472.7	1685.4	1726.0
45°	1283.8	1289.5	1395.7	1616.7	1677.1
47.5°	1210.2	1217.7	1322.5	1541.4	1616.3
50°	1124.8	1134.5	1257.4	1474.5	1570.9
52.5°	1032.3	1050.8	1193.9	1411.1	1508.4
55°	945.6	961.0	1113.4	1356.9	1464.8
57.5°	866.3	875.5	1030.1	1288.6	1370.1
60°	788.3	790.5	951.7	1212.9	1290.8
62.5°	698.9	702.9	871.1	1123.5	1227.9
65°	598.5	617.5	784.4	1038.0	1132.3
67.5°	504.7	537.7	695.8	959.6	1009.0
70°	404.3	460.2	609.1	867.6	902.4
72.5°	312.2	377.9	520.1	764.5	813.4
75°	226.4	299.9	437.3	672.1	714.3
77.5°	152.4	227.3	359.8	569.9	625.8
80°	91.2	166.0	290.7	475.2	538.2
82.5°	46.7	111.4	225.5	398.6	454.9
85°	20.3	70.5	170.4	330.7	379.6
87.5°	5.7	40.1	125.5	267.3	308.7
90°	0.4	21.1	89.4	209.6	247.1
92.5°	0.4	10.1	63.0	158.5	187.2
95°	0.4	5.3	39.2	114.9	140.5
97.5°	0.4	3.1	23.8	81.5	103.1
100°	0.4	2.6	14.1	54.2	73.5
102.5°	0.4	3.1	9.7	34.4	48.0
105°	0.4	3.1	7.9	22.5	31.7
107.5°	0.9	3.1	7.0	16.7	22.0
110°	0.4	2.6	7.5	12.8	17.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.2	7.0	10.6	12.8
115°	0.4	1.8	6.2	10.1	10.6
117.5°	0.9	1.3	4.8	10.1	10.6
120°	0.9	0.9	4.0	9.7	11.0
122.5°	0.9	0.9	3.1	8.8	10.6
125°	0.4	0.9	2.6	6.6	9.2
127.5°	0.9	0.9	2.2	5.3	7.0
130°	0.9	0.9	1.8	4.0	5.3
132.5°	0.9	0.9	1.3	3.1	4.0
135°	0.9	0.9	0.9	2.2	3.1
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)