

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: P517603

Luminaire Tested: HVL12-8-LD4-1LO-40-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: P517603
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1LO-40-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6017.0 lumens
Efficiency: N/A
Efficacy: 127.2 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

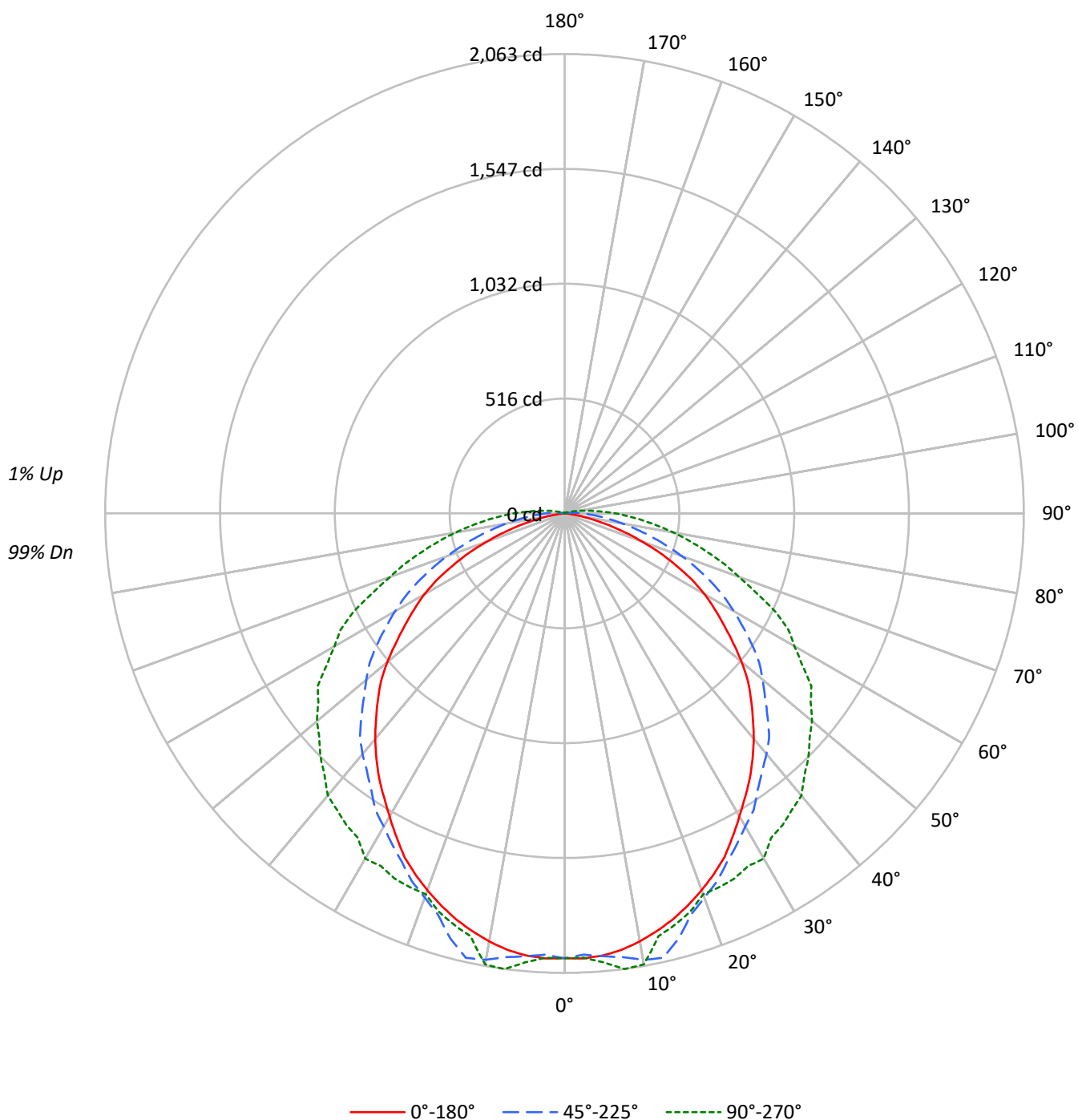
Input Watts (W): 47.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	2687	2687	2687
5°	2686	2664	2694
10°	2656	2717	2729
15°	2612	2660	2551
20°	2558	2508	2457
25°	2501	2415	2490
30°	2412	2343	2537
35°	2350	2276	2512
40°	2283	2230	2549
45°	2211	2166	2527
50°	2122	2100	2534
55°	1990	2029	2564
60°	1892	1924	2490
65°	1685	1796	2453
70°	1390	1622	2249
75°	1009	1405	2115
80°	583	1187	1980
85°	233	966	1863

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2564 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.0	3.2
10°-20°	546.7	9.1
20°-30°	813.4	13.5
30°-40°	977.7	16.2
40°-50°	1029.1	17.1
50°-60°	954.9	15.9
60°-70°	755.0	12.5
70°-80°	461.2	7.7
80°-90°	200.9	3.3
90°-100°	62.6	1.0
100°-110°	14.0	0.2
110°-120°	5.7	0.1
120°-130°	3.2	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°	1552.0	25.8
0°-40°	2529.7	42.0
0°-60°	4513.6	75.0
0°-90°	5930.7	98.6
90°-120°	82.2	1.4
90°-150°	86.3	1.4
90°-180°	86.0	1.4
0°-180°	6017.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1997	1997	1997	1997	1997	
5°	1992	1988	1995	2018	2023	189
15°	1886	1958	1977	1912	1913	531
25°	1701	1810	1727	1779	1808	781
35°	1451	1492	1514	1652	1708	907
45°	1186	1191	1289	1494	1549	914
55°	874	888	1029	1254	1353	785
65°	553	570	725	959	1046	548
75°	209	277	404	621	660	228
85°	19	65	158	306	351	29
90°	0	20	83	194	228	1
95°	0	5	36	106	130	0
105°	0	3	7	21	29	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°	1997.3	1997.3	1997.3	1997.3	1997.3
2.5°	1999.8	1994.5	1983.5	1994.1	1996.9
5°	1992.4	1988.4	1995.3	2017.7	2023.4
7.5°	1975.8	1991.2	2009.5	2050.2	2063.2
10°	1950.9	1980.2	2035.2	2069.7	2056.3
12.5°	1920.8	1970.5	2044.1	1976.6	1945.2
15°	1885.8	1958.3	1977.4	1911.9	1913.1
17.5°	1844.7	1948.1	1889.1	1887.5	1875.7
20°	1800.4	1913.9	1835.8	1832.5	1819.9
22.5°	1752.8	1868.7	1788.6	1782.1	1816.3
25°	1701.1	1809.8	1727.2	1778.8	1807.7
27.5°	1636.4	1732.4	1675.9	1749.1	1785.3
30°	1570.9	1652.7	1623.4	1725.5	1789.8
32.5°	1509.5	1569.3	1580.3	1716.6	1727.2
35°	1451.3	1491.6	1514.0	1651.5	1707.6
37.5°	1387.4	1398.4	1457.8	1624.2	1678.3
40°	1322.3	1315.4	1410.6	1579.5	1654.3
42.5°	1252.3	1249.9	1360.6	1557.1	1594.5
45°	1186.0	1191.3	1289.4	1493.6	1549.4
47.5°	1118.1	1125.0	1221.8	1424.0	1493.2
50°	1039.1	1048.1	1161.6	1362.2	1451.3
52.5°	953.7	970.8	1103.0	1303.6	1393.5
55°	873.5	887.8	1028.6	1253.6	1353.2
57.5°	800.3	808.9	951.7	1190.5	1265.8
60°	728.3	730.3	879.2	1120.5	1192.5
62.5°	645.7	649.4	804.8	1037.9	1134.3
65°	552.9	570.4	724.6	959.0	1046.1
67.5°	466.3	496.8	642.9	886.6	932.1
70°	373.5	425.2	562.7	801.5	833.7
72.5°	288.5	349.1	480.5	706.3	751.5
75°	209.1	277.1	404.0	620.9	659.9
77.5°	140.8	209.9	332.4	526.5	578.2
80°	84.2	153.4	268.5	439.0	497.2
82.5°	43.1	102.9	208.3	368.2	420.3
85°	18.7	65.1	157.5	305.6	350.7
87.5°	5.3	37.0	116.0	247.0	285.2
90°	0.4	19.5	82.6	193.7	228.3
92.5°	0.4	9.4	58.2	146.5	172.9
95°	0.4	4.9	36.2	106.2	129.8
97.5°	0.4	2.8	22.0	75.3	95.2
100°	0.4	2.4	13.0	50.0	67.9
102.5°	0.4	2.8	9.0	31.7	44.3
105°	0.4	2.8	7.3	20.8	29.3
107.5°	0.8	2.8	6.5	15.5	20.3
110°	0.4	2.4	6.9	11.8	15.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	2.0	6.5	9.8	11.8
115°	0.4	1.6	5.7	9.4	9.8
117.5°	0.8	1.2	4.5	9.4	9.8
120°	0.8	0.8	3.7	9.0	10.2
122.5°	0.8	0.8	2.8	8.1	9.8
125°	0.4	0.8	2.4	6.1	8.5
127.5°	0.8	0.8	2.0	4.9	6.5
130°	0.8	0.8	1.6	3.7	4.9
132.5°	0.8	0.8	1.2	2.8	3.7
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)