

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: P517616

Luminaire Tested: HVL12-8-LD4-1STD-35-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: P517616
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-1STD-35-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6422.0 lumens
Efficiency: N/A
Efficacy: 95.9 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

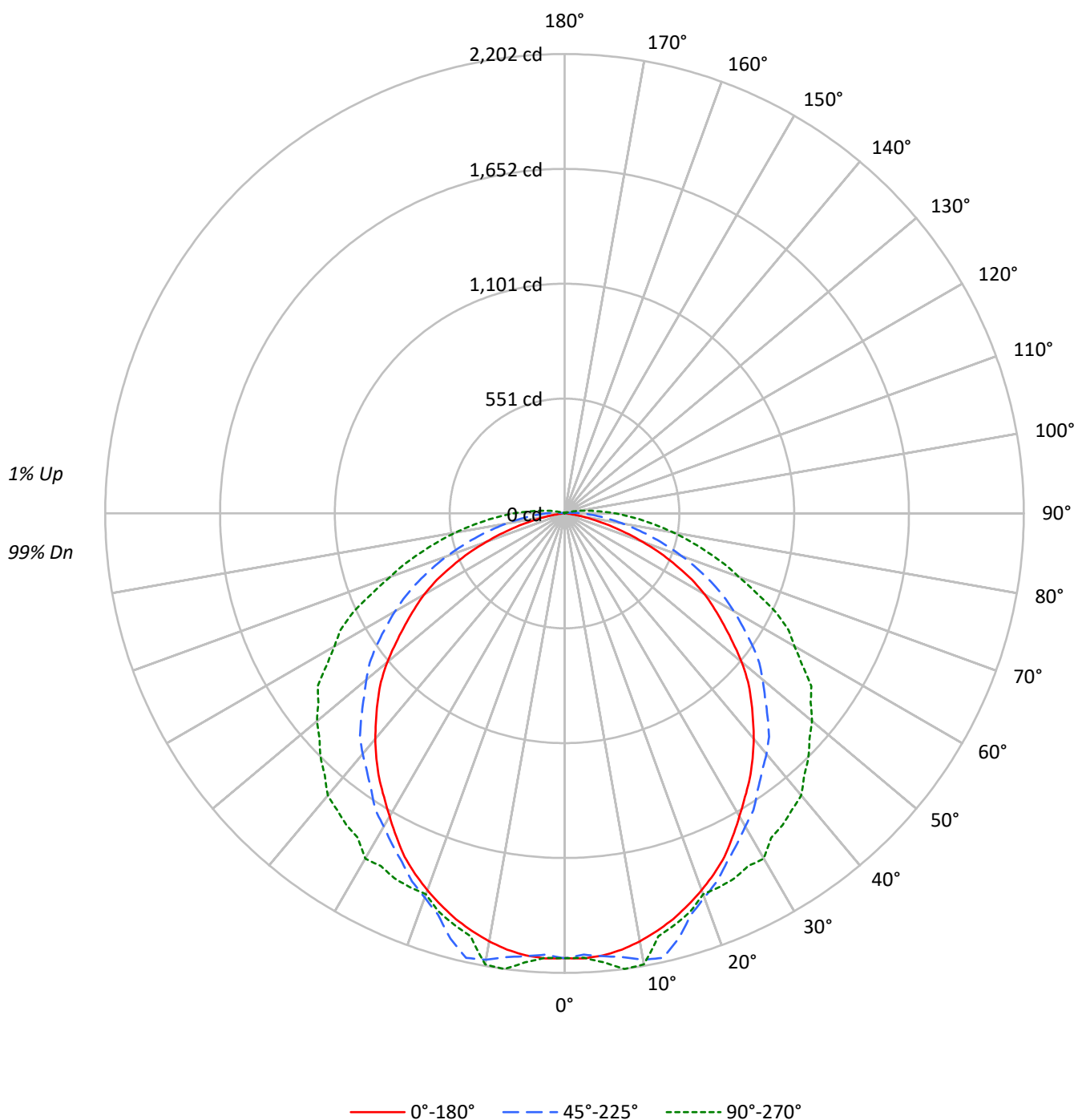
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2868	2868	2868
5°	2867	2843	2875
10°	2834	2900	2913
15°	2788	2839	2723
20°	2731	2676	2622
25°	2669	2577	2658
30°	2574	2501	2707
35°	2508	2429	2681
40°	2436	2380	2721
45°	2360	2312	2697
50°	2265	2241	2705
55°	2124	2165	2737
60°	2019	2054	2658
65°	1799	1917	2619
70°	1483	1732	2401
75°	1077	1500	2257
80°	623	1267	2114
85°	249	1032	1989

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 2737 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.9	3.2
10°-20°	583.5	9.1
20°-30°	868.1	13.5
30°-40°	1043.5	16.2
40°-50°	1098.3	17.1
50°-60°	1019.1	15.9
60°-70°	805.8	12.5
70°-80°	492.2	7.7
80°-90°	214.5	3.3
90°-100°	66.7	1.0
100°-110°	15.0	0.2
110°-120°	6.0	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°	1656.5	25.8
0°-40°	2700.0	42.0
0°-60°	4817.4	75.0
0°-90°	6329.9	98.6
90°-120°	87.8	1.4
90°-150°	92.1	1.4
90°-180°	92.0	1.4
0°-180°	6422.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2132	2132	2132	2132	2132	
5°	2126	2122	2130	2154	2160	202
15°	2013	2090	2110	2041	2042	567
25°	1816	1932	1843	1899	1929	834
35°	1549	1592	1616	1763	1823	968
45°	1266	1272	1376	1594	1654	976
55°	932	948	1098	1338	1444	838
65°	590	609	773	1024	1116	584
75°	223	296	431	663	704	244
85°	20	70	168	326	374	31
90°	0	21	88	207	244	1
95°	0	5	39	113	138	0
105°	0	3	8	22	31	1
115°	0	2	6	10	10	1
125°	0	1	3	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°	2131.8	2131.8	2131.8	2131.8	2131.8
2.5°	2134.4	2128.7	2117.0	2128.3	2131.3
5°	2126.5	2122.2	2129.6	2153.5	2159.5
7.5°	2108.7	2125.2	2144.8	2188.2	2202.1
10°	2082.2	2113.5	2172.1	2209.1	2194.7
12.5°	2050.1	2103.1	2181.7	2109.6	2076.2
15°	2012.8	2090.1	2110.5	2040.6	2041.9
17.5°	1968.9	2079.2	2016.2	2014.5	2001.9
20°	1921.6	2042.7	1959.4	1955.9	1942.4
22.5°	1870.8	1994.5	1909.0	1902.0	1938.5
25°	1815.6	1931.6	1843.4	1898.6	1929.4
27.5°	1746.6	1849.1	1788.7	1866.9	1905.5
30°	1676.7	1763.9	1732.7	1841.7	1910.3
32.5°	1611.1	1674.9	1686.6	1832.1	1843.4
35°	1549.0	1592.0	1615.9	1762.6	1822.6
37.5°	1480.8	1492.5	1555.9	1733.5	1791.3
40°	1411.3	1403.9	1505.6	1685.8	1765.7
42.5°	1336.6	1334.0	1452.1	1661.9	1701.8
45°	1265.9	1271.5	1376.2	1594.1	1653.6
47.5°	1193.3	1200.7	1304.1	1519.9	1593.7
50°	1109.1	1118.6	1239.8	1453.9	1549.0
52.5°	1017.9	1036.1	1177.3	1391.4	1487.3
55°	932.3	947.5	1097.8	1337.9	1444.3
57.5°	854.2	863.3	1015.7	1270.6	1351.0
60°	777.3	779.5	938.4	1195.9	1272.8
62.5°	689.2	693.1	859.0	1107.8	1210.7
65°	590.2	608.8	773.4	1023.5	1116.5
67.5°	497.7	530.2	686.1	946.2	994.9
70°	398.6	453.8	600.6	855.5	889.8
72.5°	307.9	372.6	512.9	753.9	802.1
75°	223.2	295.7	431.2	662.7	704.4
77.5°	150.3	224.1	354.8	561.9	617.1
80°	89.9	163.7	286.6	468.6	530.7
82.5°	46.0	109.9	222.3	393.0	448.6
85°	20.0	69.5	168.1	326.1	374.3
87.5°	5.6	39.5	123.8	263.6	304.4
90°	0.4	20.8	88.2	206.7	243.6
92.5°	0.4	10.0	62.1	156.3	184.6
95°	0.4	5.2	38.6	113.3	138.5
97.5°	0.4	3.0	23.4	80.3	101.6
100°	0.4	2.6	13.9	53.4	72.5
102.5°	0.4	3.0	9.6	33.9	47.3
105°	0.4	3.0	7.8	22.1	31.3
107.5°	0.9	3.0	6.9	16.5	21.7
110°	0.4	2.6	7.4	12.6	16.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	2.2	6.9	10.4	12.6
115°	0.4	1.7	6.1	10.0	10.4
117.5°	0.9	1.3	4.8	10.0	10.4
120°	0.9	0.9	3.9	9.6	10.9
122.5°	0.9	0.9	3.0	8.7	10.4
125°	0.4	0.9	2.6	6.5	9.1
127.5°	0.9	0.9	2.2	5.2	6.9
130°	0.9	0.9	1.7	3.9	5.2
132.5°	0.9	0.9	1.3	3.0	3.9
135°	0.9	0.9	0.9	2.2	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)