

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: P518126

Luminaire Tested: HVL8-4-LD4-3LO-30-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: P518126
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-4-LD4-3LO-30-UNV-O-EDD
Description: 4 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6389.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 4' x H: 0.17')
CIE Type: Direct

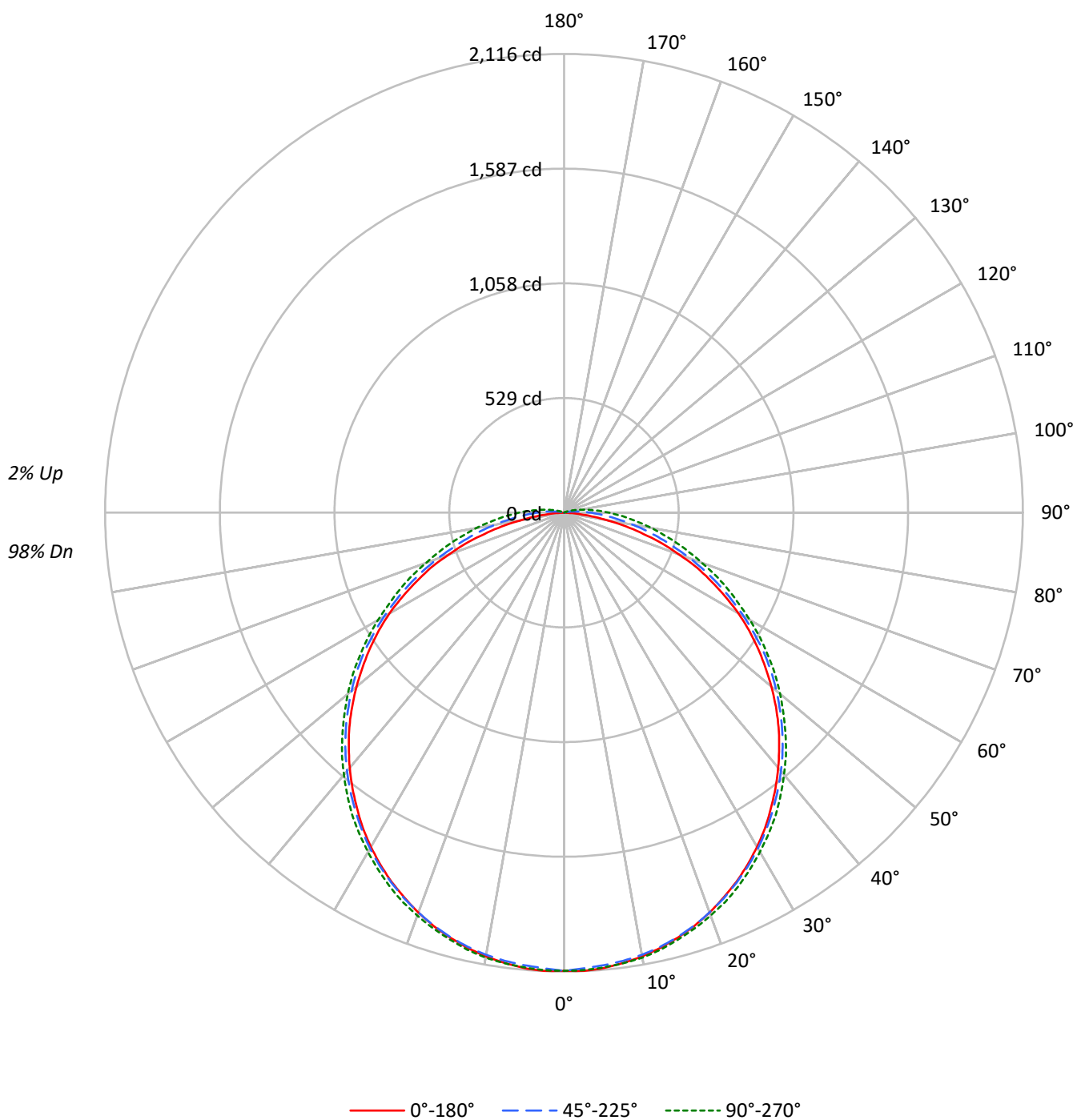
Input Watts (W): 67.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	8529	8529	8529
5°	8513	8339	8347
10°	8456	8190	8180
15°	8383	8025	7979
20°	8305	7840	7784
25°	8211	7651	7586
30°	8103	7448	7361
35°	7966	7226	7138
40°	7824	6992	6878
45°	7671	6737	6597
50°	7471	6443	6295
55°	7256	6120	5962
60°	6999	5700	5573
65°	6582	5231	5188
70°	5982	4679	4740
75°	5130	4074	4332
80°	3858	3479	3961
85°	2064	2879	3606

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 7671 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.0	3.1
10°-20°	573.6	9.0
20°-30°	870.3	13.6
30°-40°	1052.4	16.5
40°-50°	1098.1	17.2
50°-60°	1004.0	15.7
60°-70°	782.6	12.2
70°-80°	489.6	7.7
80°-90°	222.4	3.5
90°-100°	74.5	1.2
100°-110°	18.7	0.3
110°-120°	3.0	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°	1643.9	25.7
0°-40°	2696.2	42.2
0°-60°	4798.2	75.1
0°-90°	6292.8	98.5
90°-120°	96.2	1.5
90°-150°	96.2	1.5
90°-180°	96.0	1.5
0°-180°	6389.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2113	2113	2113	2113	2113	
5°	2109	2105	2095	2105	2105	200
15°	2028	2032	2026	2038	2037	573
25°	1880	1881	1883	1899	1902	866
35°	1664	1671	1678	1695	1702	1041
45°	1400	1412	1424	1438	1445	1079
55°	1092	1105	1126	1142	1150	976
65°	751	764	790	821	834	743
75°	380	404	462	518	537	405
85°	66	122	209	276	300	83
90°	0	45	123	185	207	3
95°	0	12	64	116	134	0
105°	1	2	10	31	41	1
115°	2	2	2	6	8	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

TEST NUMBER: P518126

CATALOG NUMBER: HVL8-4-LD4-3LO-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2113.1	2113.1	2113.1	2113.1	2113.1
2.5°	2115.6	2112.6	2103.1	2112.6	2112.1
5°	2108.6	2104.6	2095.2	2105.1	2105.1
7.5°	2094.7	2093.2	2084.7	2096.2	2096.2
10°	2078.2	2077.7	2070.8	2083.2	2083.7
12.5°	2055.3	2057.3	2050.8	2062.8	2064.3
15°	2028.4	2031.9	2026.4	2037.9	2037.4
17.5°	1999.0	2001.0	1997.0	2010.0	2009.5
20°	1962.7	1965.1	1962.2	1975.6	1977.1
22.5°	1922.3	1925.8	1925.3	1939.2	1943.2
25°	1879.5	1881.0	1883.0	1898.9	1901.9
27.5°	1832.1	1834.6	1838.1	1852.6	1855.6
30°	1780.3	1784.3	1788.3	1803.3	1807.2
32.5°	1725.5	1729.5	1734.5	1753.9	1755.9
35°	1663.8	1671.2	1678.2	1695.2	1702.1
37.5°	1602.0	1611.5	1617.9	1635.9	1641.4
40°	1536.8	1546.2	1556.7	1575.6	1579.1
42.5°	1468.5	1479.5	1491.9	1508.9	1514.8
45°	1399.8	1412.2	1423.7	1437.6	1444.6
47.5°	1325.5	1338.0	1351.9	1367.9	1372.4
50°	1248.8	1263.3	1278.2	1293.2	1301.1
52.5°	1170.1	1187.6	1204.5	1220.4	1227.9
55°	1092.4	1105.4	1125.8	1142.2	1149.7
57.5°	1011.7	1022.7	1041.1	1068.0	1072.0
60°	929.5	939.5	958.4	980.3	989.3
62.5°	838.9	852.3	872.2	900.1	908.1
65°	750.7	763.6	790.0	821.4	834.4
67.5°	665.5	670.0	703.9	736.7	757.7
70°	564.9	581.8	621.2	661.5	677.5
72.5°	478.2	495.1	538.5	585.8	605.7
75°	380.1	403.5	462.3	517.6	537.0
77.5°	293.9	319.8	392.5	448.3	470.7
80°	205.2	245.6	324.8	387.6	412.0
82.5°	129.0	178.8	263.5	329.3	350.7
85°	65.8	121.5	208.7	276.0	300.4
87.5°	17.4	78.7	162.4	226.7	251.6
90°	0.5	45.3	123.0	184.8	207.2
92.5°	0.5	25.4	91.7	147.0	169.9
95°	0.5	12.0	63.8	115.6	133.5
97.5°	0.5	5.0	43.8	87.2	105.1
100°	0.5	2.5	27.9	63.3	78.7
102.5°	1.0	1.5	17.4	45.3	57.8
105°	1.0	1.5	10.5	30.9	41.3
107.5°	1.0	1.5	6.0	20.9	28.4
110°	1.5	1.5	3.5	13.0	18.9

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CATALOG NUMBER: HVL8-4-LD4-3LO-30-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	1.5	2.0	8.5	12.5
115°	1.5	1.5	2.0	5.5	8.0
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)