

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: P517978

Luminaire Tested: HVL8-2-LD4-3HI-50-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: P517978
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3HI-50-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5731.0 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

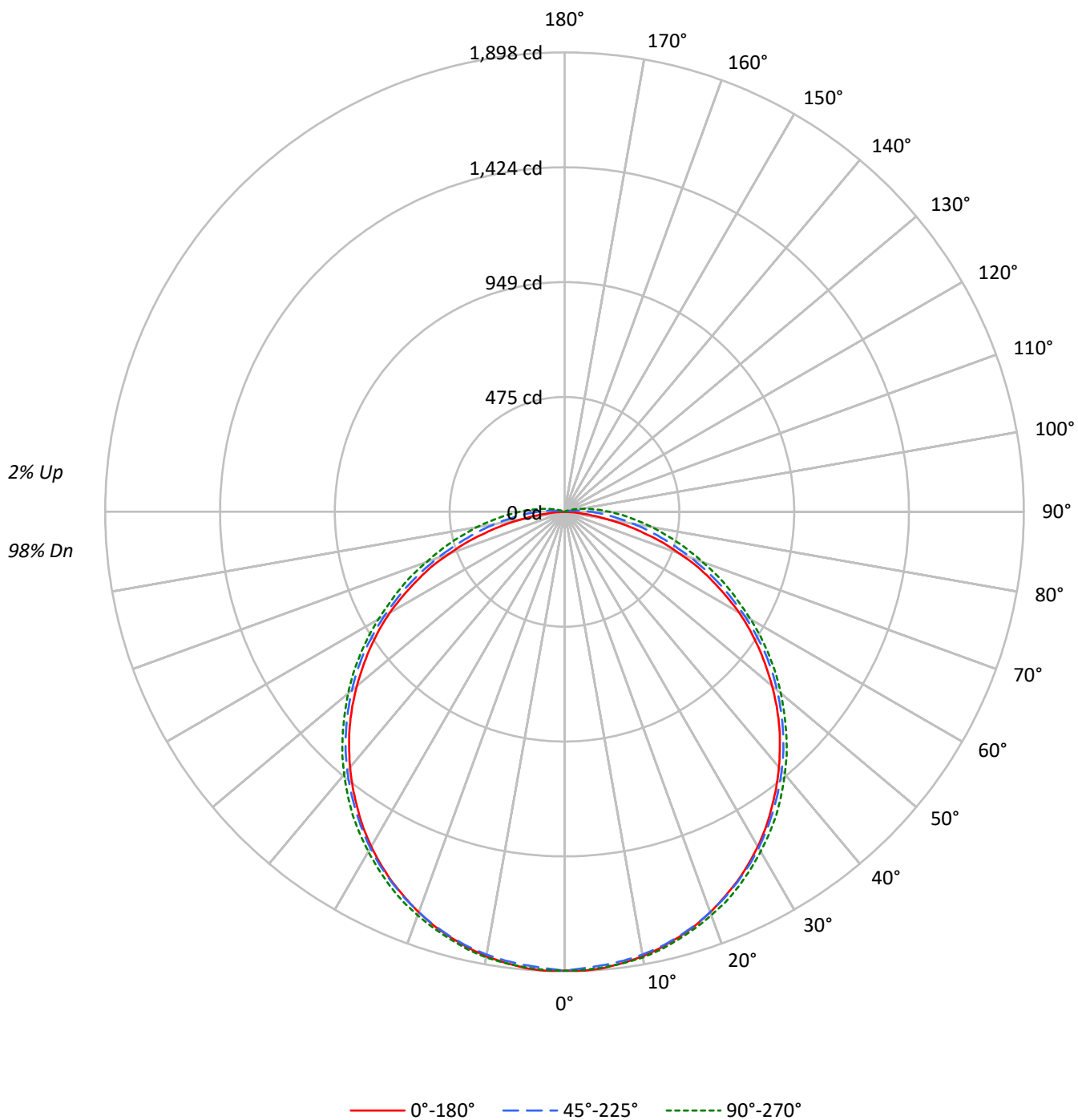
Input Watts (W): 63
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	15302	15302	15302
5°	15217	14922	14975
10°	15060	14619	14675
15°	14875	14289	14315
20°	14679	13926	13965
25°	14455	13555	13609
30°	14203	13162	13205
35°	13897	12734	12805
40°	13578	12286	12339
45°	13232	11799	11835
50°	12798	11242	11293
55°	12325	10633	10696
60°	11764	9856	9998
65°	10913	8992	9306
70°	9731	7982	8503
75°	8110	6881	7772
80°	5812	5795	7104
85°	2799	4693	6468

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 13232 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.4	3.1
10°-20°	514.5	9.0
20°-30°	780.7	13.6
30°-40°	944.0	16.5
40°-50°	985.0	17.2
50°-60°	900.6	15.7
60°-70°	702.0	12.2
70°-80°	439.2	7.7
80°-90°	199.5	3.5
90°-100°	66.8	1.2
100°-110°	16.8	0.3
110°-120°	2.6	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°	1474.6	25.7
0°-40°	2418.5	42.2
0°-60°	4304.1	75.1
0°-90°	5644.7	98.5
90°-120°	86.3	1.5
90°-150°	86.3	1.5
90°-180°	86.0	1.5
0°-180°	5731.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1896	1896	1896	1896	1896	
5°	1891	1888	1879	1888	1888	180
15°	1820	1823	1818	1828	1828	514
25°	1686	1687	1689	1703	1706	777
35°	1492	1499	1505	1521	1527	934
45°	1256	1267	1277	1290	1296	968
55°	980	992	1010	1025	1031	875
65°	673	685	709	737	748	666
75°	341	362	415	464	482	363
85°	59	109	187	248	269	75
90°	0	41	110	166	186	2
95°	0	11	57	104	120	0
105°	1	1	9	28	37	1
115°	1	1	2	5	7	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

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CATALOG NUMBER: HVL8-2-LD4-3HI-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1895.5	1895.5	1895.5	1895.5	1895.5
2.5°	1897.7	1895.0	1886.5	1895.0	1894.6
5°	1891.4	1887.9	1879.4	1888.3	1888.3
7.5°	1878.9	1877.6	1870.0	1880.3	1880.3
10°	1864.2	1863.7	1857.5	1868.7	1869.1
12.5°	1843.6	1845.4	1839.6	1850.3	1851.7
15°	1819.5	1822.6	1817.7	1828.0	1827.5
17.5°	1793.1	1794.9	1791.4	1803.0	1802.5
20°	1760.5	1762.8	1760.1	1772.1	1773.5
22.5°	1724.3	1727.5	1727.0	1739.5	1743.1
25°	1685.9	1687.2	1689.0	1703.3	1706.0
27.5°	1643.5	1645.7	1648.8	1661.8	1664.5
30°	1597.0	1600.6	1604.1	1617.5	1621.1
32.5°	1547.8	1551.4	1555.9	1573.3	1575.1
35°	1492.4	1499.1	1505.4	1520.6	1526.8
37.5°	1437.0	1445.5	1451.3	1467.4	1472.3
40°	1378.5	1387.0	1396.4	1413.3	1416.5
42.5°	1317.3	1327.1	1338.3	1353.5	1358.8
45°	1255.6	1266.8	1277.1	1289.6	1295.8
47.5°	1189.0	1200.2	1212.7	1227.0	1231.0
50°	1120.2	1133.2	1146.6	1160.0	1167.1
52.5°	1049.6	1065.3	1080.4	1094.7	1101.4
55°	979.9	991.5	1009.8	1024.6	1031.3
57.5°	907.5	917.3	933.9	958.0	961.6
60°	833.8	842.7	859.7	879.4	887.4
62.5°	752.5	764.5	782.4	807.4	814.6
65°	673.4	685.0	708.7	736.8	748.4
67.5°	597.0	601.0	631.4	660.9	679.6
70°	506.7	521.9	557.2	593.4	607.7
72.5°	429.0	444.2	483.0	525.5	543.3
75°	340.9	361.9	414.7	464.3	481.7
77.5°	263.6	286.9	352.1	402.2	422.3
80°	184.1	220.3	291.3	347.6	369.5
82.5°	115.7	160.4	236.4	295.4	314.6
85°	59.0	109.0	187.2	247.5	269.4
87.5°	15.6	70.6	145.7	203.3	225.7
90°	0.4	40.7	110.4	165.8	185.9
92.5°	0.4	22.8	82.2	131.8	152.4
95°	0.4	10.7	57.2	103.7	119.8
97.5°	0.4	4.5	39.3	78.2	94.3
100°	0.4	2.2	25.0	56.7	70.6
102.5°	0.9	1.3	15.6	40.7	51.8
105°	0.9	1.3	9.4	27.7	37.1
107.5°	0.9	1.3	5.4	18.8	25.5
110°	1.3	1.3	3.1	11.6	17.0

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CATALOG NUMBER: HVL8-2-LD4-3HI-50-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	1.3	1.8	7.6	11.2
115°	1.3	1.3	1.8	4.9	7.1
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)