

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: P518179

Luminaire Tested: HVL8-8-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: P518179
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1LO-40-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5763.0 lumens
Efficiency: N/A
Efficacy: 125.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

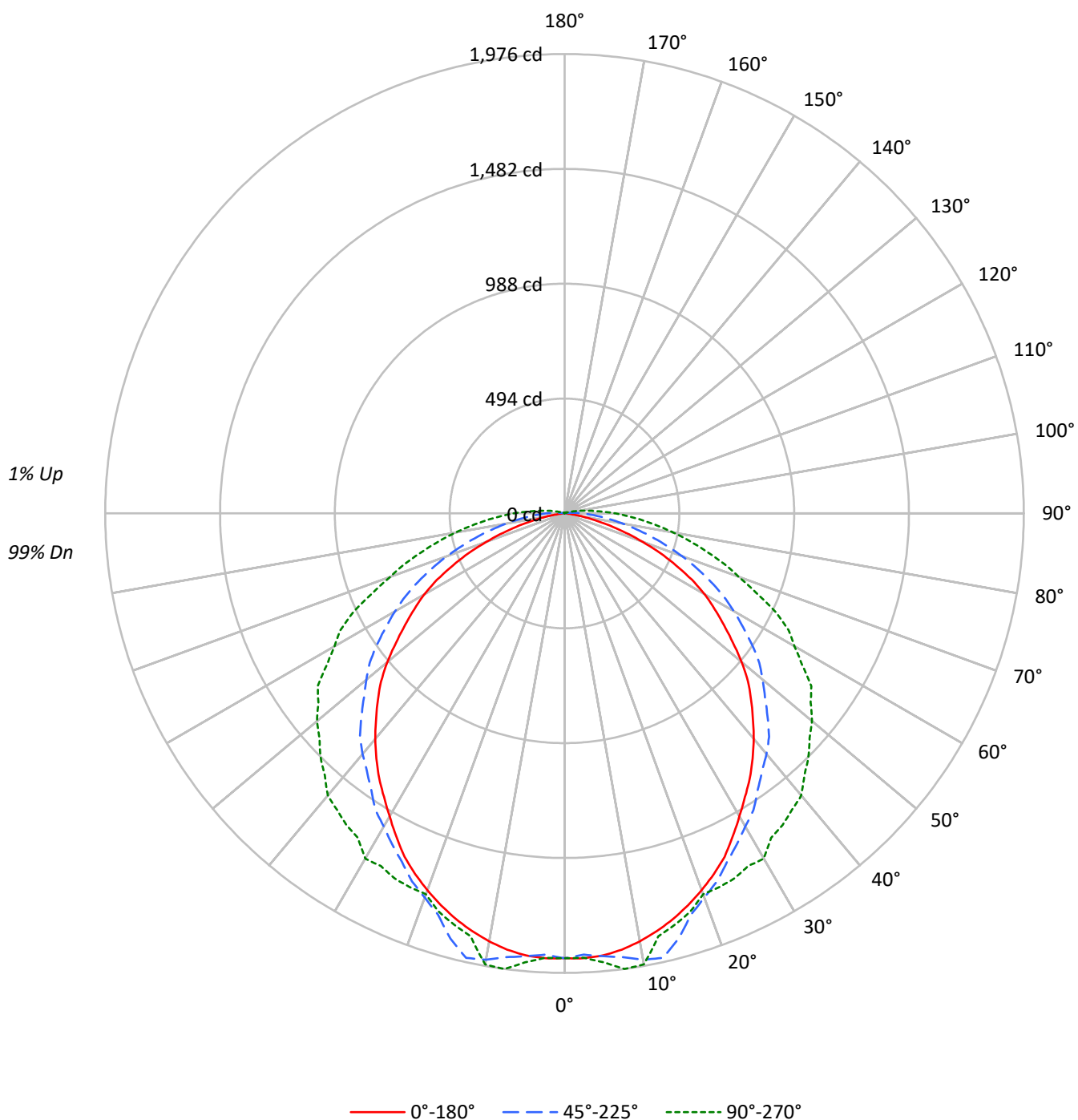
Input Watts (W): 46
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3861	3861	3861
5°	3859	3808	3842
10°	3815	3864	3866
15°	3753	3764	3588
20°	3676	3530	3431
25°	3593	3382	3453
30°	3465	3263	3491
35°	3375	3150	3429
40°	3279	3067	3451
45°	3176	2958	3388
50°	3049	2844	3362
55°	2859	2722	3361
60°	2718	2552	3217
65°	2421	2349	3115
70°	1996	2084	2793
75°	1449	1760	2550
80°	839	1433	2289
85°	335	1095	2016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3388 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.9	3.2
10°-20°	523.6	9.1
20°-30°	779.0	13.5
30°-40°	936.4	16.2
40°-50°	985.6	17.1
50°-60°	914.5	15.9
60°-70°	723.1	12.5
70°-80°	441.7	7.7
80°-90°	192.5	3.3
90°-100°	59.9	1.0
100°-110°	13.5	0.2
110°-120°	5.4	0.1
120°-130°	3.0	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°	1486.5	25.8
0°-40°	2422.9	42.0
0°-60°	4323.1	75.0
0°-90°	5680.4	98.6
90°-120°	78.8	1.4
90°-150°	82.7	1.4
90°-180°	83.0	1.4
0°-180°	5763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1913	1913	1913	1913	1913	
5°	1908	1904	1911	1932	1938	181
15°	1806	1876	1894	1831	1832	509
25°	1629	1733	1654	1704	1731	748
35°	1390	1429	1450	1582	1636	869
45°	1136	1141	1235	1431	1484	876
55°	837	850	985	1201	1296	752
65°	530	546	694	918	1002	524
75°	200	265	387	595	632	219
85°	18	62	151	293	336	28
90°	0	19	79	186	219	1
95°	0	5	35	102	124	0
105°	0	3	7	20	28	1
115°	0	2	6	9	9	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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CATALOG NUMBER: HVL8-8-LD4-1LO-40-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1913.0	1913.0	1913.0	1913.0	1913.0
2.5°	1915.3	1910.3	1899.8	1909.9	1912.6
5°	1908.3	1904.4	1911.1	1932.5	1937.9
7.5°	1892.3	1907.2	1924.7	1963.7	1976.1
10°	1868.6	1896.6	1949.2	1982.4	1969.5
12.5°	1839.7	1887.3	1957.8	1893.1	1863.1
15°	1806.2	1875.6	1893.9	1831.2	1832.3
17.5°	1766.9	1865.8	1809.3	1807.8	1796.5
20°	1724.4	1833.1	1758.3	1755.2	1743.1
22.5°	1678.8	1789.9	1713.1	1706.9	1739.6
25°	1629.3	1733.4	1654.2	1703.7	1731.4
27.5°	1567.3	1659.3	1605.1	1675.3	1710.0
30°	1504.6	1582.9	1554.9	1652.7	1714.3
32.5°	1445.8	1503.0	1513.6	1644.1	1654.2
35°	1390.0	1428.6	1450.0	1581.8	1635.5
37.5°	1328.9	1339.4	1396.3	1555.7	1607.5
40°	1266.5	1259.9	1351.1	1512.8	1584.5
42.5°	1199.5	1197.1	1303.1	1491.4	1527.2
45°	1136.0	1141.0	1234.9	1430.6	1484.0
47.5°	1070.9	1077.5	1170.2	1363.9	1430.2
50°	995.3	1003.8	1112.6	1304.7	1390.0
52.5°	913.4	929.8	1056.5	1248.6	1334.7
55°	836.7	850.3	985.1	1200.6	1296.1
57.5°	766.5	774.7	911.5	1140.2	1212.3
60°	697.6	699.5	842.1	1073.2	1142.2
62.5°	618.4	621.9	770.8	994.1	1086.5
65°	529.6	546.3	694.0	918.5	1001.9
67.5°	446.6	475.8	615.7	849.1	892.8
70°	357.7	407.2	538.9	767.7	798.5
72.5°	276.3	334.4	460.2	676.5	719.8
75°	200.3	265.4	387.0	594.7	632.1
77.5°	134.8	201.1	318.4	504.3	553.8
80°	80.7	146.9	257.2	420.5	476.2
82.5°	41.3	98.6	199.5	352.7	402.6
85°	17.9	62.4	150.8	292.7	335.9
87.5°	5.1	35.5	111.1	236.5	273.2
90°	0.4	18.7	79.1	185.5	218.6
92.5°	0.4	9.0	55.7	140.3	165.6
95°	0.4	4.7	34.7	101.7	124.3
97.5°	0.4	2.7	21.0	72.1	91.2
100°	0.4	2.3	12.5	47.9	65.1
102.5°	0.4	2.7	8.6	30.4	42.5
105°	0.4	2.7	7.0	19.9	28.1
107.5°	0.8	2.7	6.2	14.8	19.5
110°	0.4	2.3	6.6	11.3	15.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.8	1.9	6.2	9.4	11.3
115°	0.4	1.6	5.5	9.0	9.4
117.5°	0.8	1.2	4.3	9.0	9.4
120°	0.8	0.8	3.5	8.6	9.7
122.5°	0.8	0.8	2.7	7.8	9.4
125°	0.4	0.8	2.3	5.8	8.2
127.5°	0.8	0.8	1.9	4.7	6.2
130°	0.8	0.8	1.6	3.5	4.7
132.5°	0.8	0.8	1.2	2.7	3.5
135°	0.8	0.8	0.8	1.9	2.7
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)