

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: P518221

Luminaire Tested: HVL8-8-LD4-2LO-30-UNV-O-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: P518221
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-30-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8102.0 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

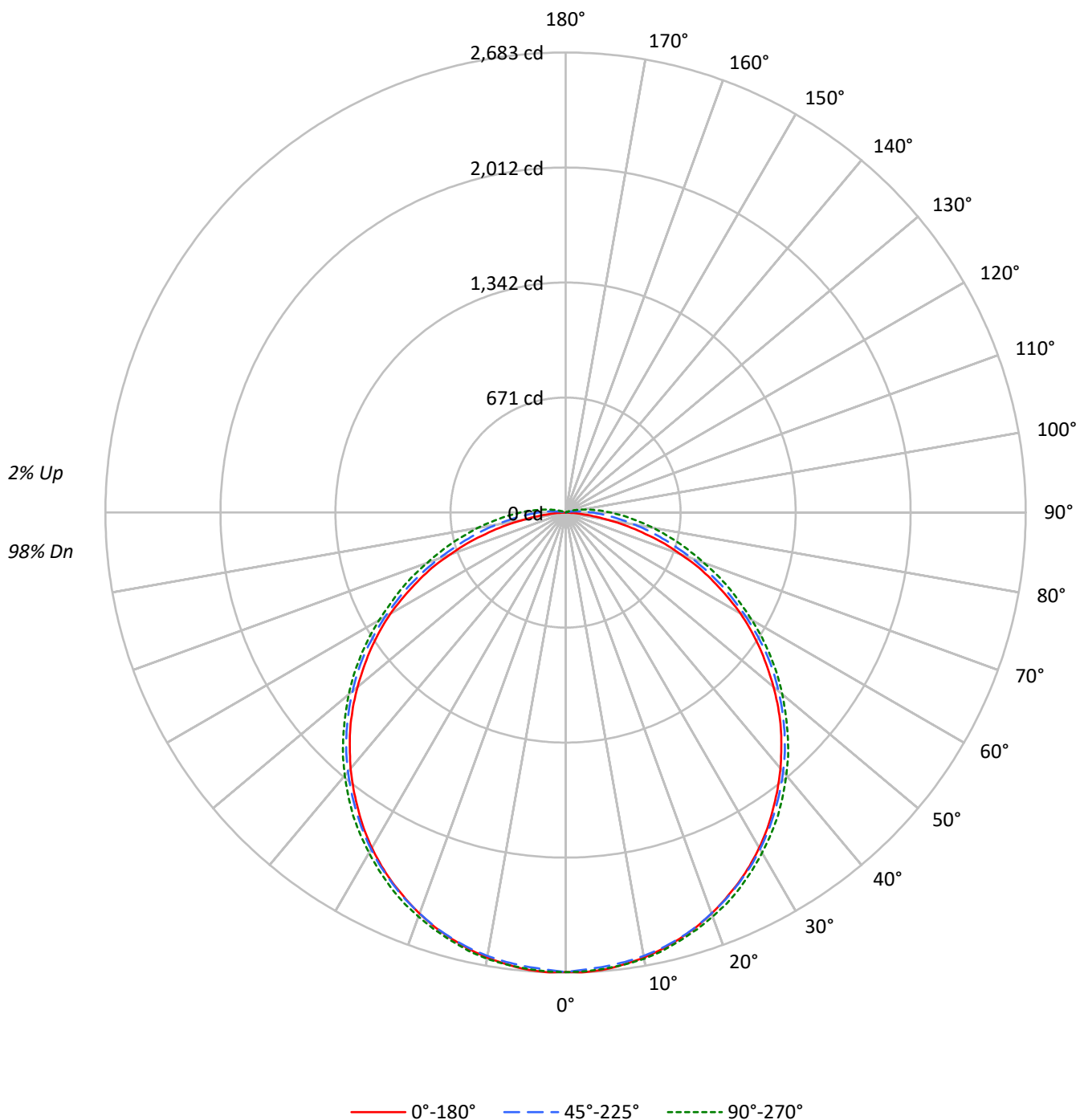
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5408	5408	5408
5°	5408	5294	5292
10°	5381	5206	5187
15°	5345	5107	5059
20°	5305	4996	4936
25°	5256	4881	4810
30°	5199	4759	4667
35°	5124	4623	4526
40°	5046	4481	4361
45°	4963	4325	4183
50°	4852	4143	3991
55°	4734	3944	3780
60°	4592	3684	3533
65°	4352	3391	3289
70°	3998	3045	3005
75°	3487	2666	2747
80°	2706	2295	2511
85°	1560	1922	2286

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4963 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.6	3.1
10°-20°	727.4	9.0
20°-30°	1103.7	13.6
30°-40°	1334.5	16.5
40°-50°	1392.5	17.2
50°-60°	1273.1	15.7
60°-70°	992.5	12.2
70°-80°	620.8	7.7
80°-90°	282.0	3.5
90°-100°	94.5	1.2
100°-110°	23.7	0.3
110°-120°	3.7	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°	2084.6	25.7
0°-40°	3419.1	42.2
0°-60°	6084.7	75.1
0°-90°	7980.0	98.5
90°-120°	122.0	1.5
90°-150°	122.0	1.5
90°-180°	122.0	1.5
0°-180°	8102.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2680	2680	2680	2680	2680	
5°	2674	2669	2657	2670	2670	254
15°	2572	2577	2570	2584	2584	726
25°	2383	2385	2388	2408	2412	1098
35°	2110	2119	2128	2150	2158	1321
45°	1775	1791	1805	1823	1832	1368
55°	1385	1402	1428	1448	1458	1238
65°	952	968	1002	1042	1058	942
75°	482	512	586	656	681	514
85°	83	154	265	350	381	106
90°	1	58	156	234	263	3
95°	1	15	81	147	169	0
105°	1	2	13	39	52	1
115°	2	2	2	7	10	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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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2679.7	2679.7	2679.7	2679.7	2679.7
2.5°	2682.8	2679.0	2667.0	2679.0	2678.4
5°	2674.0	2668.9	2656.9	2669.5	2669.5
7.5°	2656.3	2654.4	2643.6	2658.2	2658.2
10°	2635.4	2634.8	2626.0	2641.8	2642.4
12.5°	2606.4	2608.9	2600.7	2615.9	2617.7
15°	2572.3	2576.7	2569.7	2584.3	2583.6
17.5°	2535.0	2537.5	2532.5	2548.9	2548.3
20°	2488.9	2492.0	2488.2	2505.3	2507.2
22.5°	2437.7	2442.1	2441.5	2459.2	2464.2
25°	2383.4	2385.3	2387.8	2408.0	2411.8
27.5°	2323.4	2326.5	2331.0	2349.3	2353.1
30°	2257.7	2262.7	2267.8	2286.7	2291.8
32.5°	2188.2	2193.2	2199.6	2224.2	2226.7
35°	2109.9	2119.3	2128.2	2149.7	2158.5
37.5°	2031.5	2043.5	2051.7	2074.5	2081.4
40°	1948.8	1960.8	1974.0	1998.1	2002.5
42.5°	1862.2	1876.1	1891.9	1913.4	1921.0
45°	1775.1	1790.9	1805.4	1823.1	1831.9
47.5°	1680.9	1696.7	1714.4	1734.6	1740.3
50°	1583.7	1602.0	1620.9	1639.9	1650.0
52.5°	1483.9	1506.0	1527.4	1547.7	1557.1
55°	1385.3	1401.7	1427.6	1448.5	1458.0
57.5°	1283.0	1296.9	1320.2	1354.4	1359.4
60°	1178.7	1191.4	1215.4	1243.2	1254.5
62.5°	1063.8	1080.8	1106.1	1141.5	1151.6
65°	952.0	968.4	1001.9	1041.7	1058.1
67.5°	843.9	849.6	892.6	934.3	960.8
70°	716.3	737.8	787.7	838.9	859.1
72.5°	606.4	627.9	682.9	742.9	768.1
75°	482.0	511.7	586.2	656.3	681.0
77.5°	372.7	405.5	497.8	568.5	597.0
80°	260.3	311.4	411.9	491.5	522.4
82.5°	163.6	226.8	334.2	417.6	444.7
85°	83.4	154.1	264.7	350.0	380.9
87.5°	22.1	99.8	205.9	287.4	319.0
90°	0.6	57.5	156.0	234.4	262.8
92.5°	0.6	32.2	116.2	186.4	215.4
95°	0.6	15.2	80.9	146.6	169.3
97.5°	0.6	6.3	55.6	110.5	133.3
100°	0.6	3.2	35.4	80.2	99.8
102.5°	1.3	1.9	22.1	57.5	73.3
105°	1.3	1.9	13.3	39.2	52.4
107.5°	1.3	1.9	7.6	26.5	36.0
110°	1.9	1.9	4.4	16.4	24.0

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	1.9	2.5	10.7	15.8
115°	1.9	1.9	2.5	6.9	10.1
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)