

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: P518167

Luminaire Tested: HVL8-8-LD4-1HI-50-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: P518167
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-50-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9716.0 lumens
Efficiency: N/A
Efficacy: 113.0 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

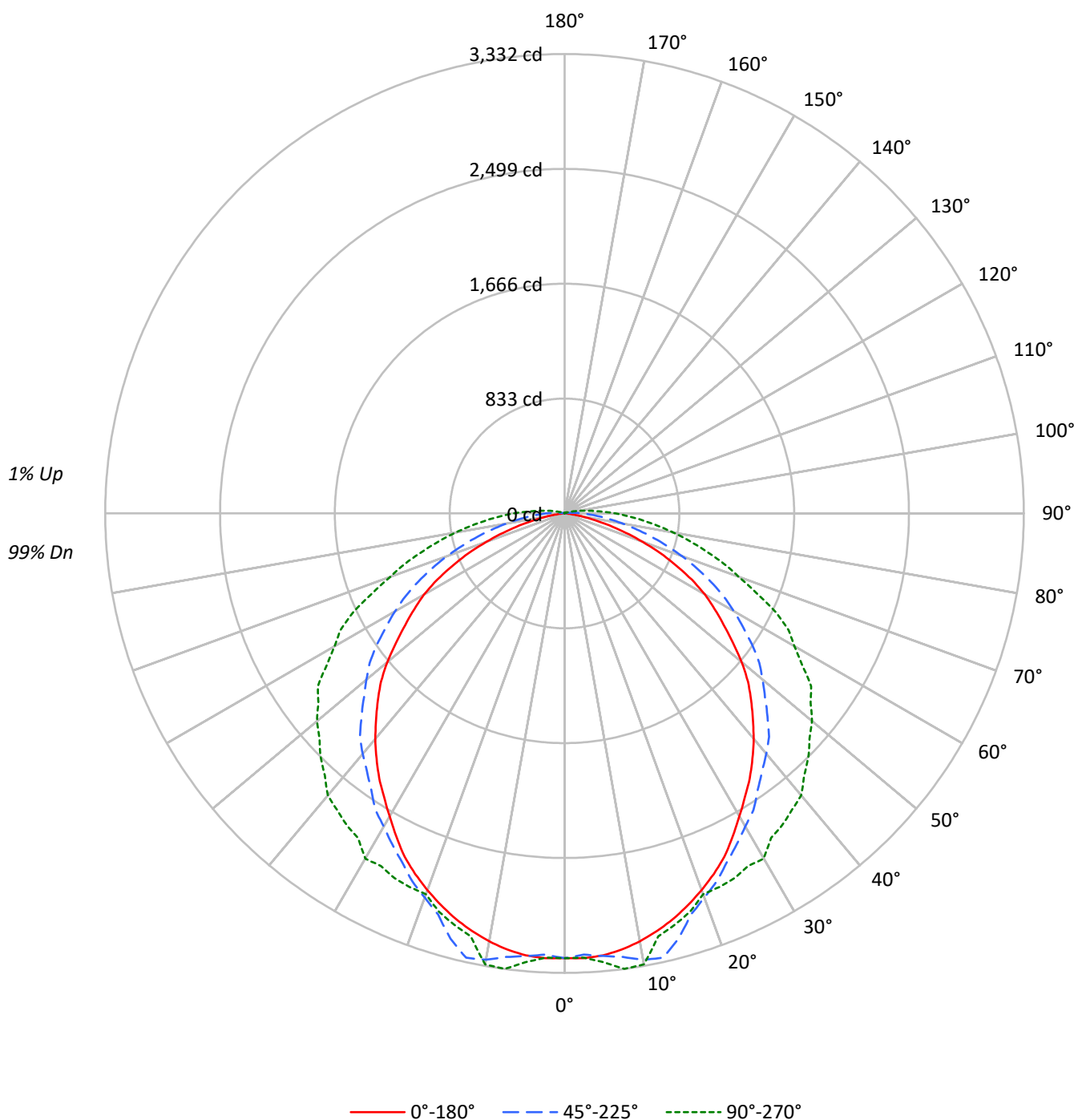
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6509	6509	6509
5°	6506	6420	6477
10°	6432	6515	6517
15°	6327	6346	6049
20°	6197	5952	5785
25°	6058	5701	5821
30°	5841	5501	5886
35°	5691	5311	5781
40°	5529	5170	5817
45°	5355	4987	5712
50°	5141	4795	5669
55°	4820	4589	5666
60°	4582	4303	5424
65°	4082	3961	5251
70°	3366	3513	4709
75°	2443	2967	4298
80°	1414	2416	3859
85°	565	1846	3399

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 5712 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.0	3.2
10°-20°	882.7	9.1
20°-30°	1313.4	13.5
30°-40°	1578.7	16.2
40°-50°	1661.7	17.1
50°-60°	1541.9	15.9
60°-70°	1219.1	12.5
70°-80°	744.7	7.7
80°-90°	324.4	3.3
90°-100°	101.0	1.0
100°-110°	22.7	0.2
110°-120°	9.1	0.1
120°-130°	5.1	0.1
130°-140°	1.4	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°	2506.1	25.8
0°-40°	4084.8	42.0
0°-60°	7288.4	75.0
0°-90°	9576.7	98.6
90°-120°	132.8	1.4
90°-150°	139.3	1.4
90°-180°	139.0	1.4
0°-180°	9716.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3225	3225	3225	3225	3225	
5°	3217	3211	3222	3258	3267	305
15°	3045	3162	3193	3087	3089	858
25°	2747	2922	2789	2872	2919	1261
35°	2344	2408	2445	2667	2757	1465
45°	1915	1924	2082	2412	2502	1476
55°	1411	1434	1661	2024	2185	1267
65°	893	921	1170	1548	1689	884
75°	338	447	652	1003	1066	369
85°	30	105	254	493	566	47
90°	1	32	133	313	369	1
95°	1	8	58	172	210	1
105°	1	5	12	34	47	1
115°	1	3	9	15	16	1
125°	1	1	4	10	14	1
135°	1	1	1	3	5	1
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°	3225.2	3225.2	3225.2	3225.2	3225.2
2.5°	3229.1	3220.6	3202.8	3219.9	3224.5
5°	3217.3	3210.7	3221.9	3258.0	3267.2
7.5°	3190.4	3215.3	3244.9	3310.6	3331.6
10°	3150.3	3197.6	3286.3	3342.1	3320.4
12.5°	3101.7	3181.8	3300.7	3191.7	3141.1
15°	3045.2	3162.1	3193.0	3087.2	3089.2
17.5°	2978.8	3145.7	3050.4	3047.8	3028.7
20°	2907.2	3090.5	2964.4	2959.1	2938.7
22.5°	2830.3	3017.6	2888.1	2877.6	2932.8
25°	2746.9	2922.3	2788.9	2872.4	2919.0
27.5°	2642.4	2797.5	2706.2	2824.4	2882.9
30°	2536.7	2668.7	2621.4	2786.3	2890.1
32.5°	2437.4	2534.0	2551.8	2771.9	2788.9
35°	2343.5	2408.5	2444.7	2666.7	2757.4
37.5°	2240.3	2258.1	2354.0	2622.7	2710.1
40°	2135.2	2124.1	2277.8	2550.5	2671.3
42.5°	2022.2	2018.3	2197.0	2514.3	2574.8
45°	1915.1	1923.7	2082.0	2411.8	2501.8
47.5°	1805.4	1816.6	1973.0	2299.5	2411.2
50°	1678.0	1692.4	1875.7	2199.6	2343.5
52.5°	1540.0	1567.6	1781.1	2105.0	2250.2
55°	1410.6	1433.6	1660.9	2024.2	2185.2
57.5°	1292.3	1306.1	1536.7	1922.4	2043.9
60°	1176.0	1179.3	1419.8	1809.4	1925.6
62.5°	1042.6	1048.6	1299.5	1676.0	1831.7
65°	892.9	921.1	1170.1	1548.5	1689.1
67.5°	752.9	802.2	1038.1	1431.6	1505.2
70°	603.1	686.6	908.6	1294.3	1346.2
72.5°	465.8	563.7	775.9	1140.5	1213.5
75°	337.7	447.4	652.4	1002.6	1065.6
77.5°	227.3	339.0	536.8	850.2	933.6
80°	136.0	247.7	433.6	708.9	802.8
82.5°	69.6	166.2	336.4	594.6	678.7
85°	30.2	105.1	254.3	493.4	566.3
87.5°	8.5	59.8	187.2	398.8	460.6
90°	0.7	31.5	133.4	312.7	368.6
92.5°	0.7	15.1	94.0	236.5	279.2
95°	0.7	7.9	58.5	171.5	209.6
97.5°	0.7	4.6	35.5	121.5	153.7
100°	0.7	3.9	21.0	80.8	109.7
102.5°	0.7	4.6	14.5	51.2	71.6
105°	0.7	4.6	11.8	33.5	47.3
107.5°	1.3	4.6	10.5	25.0	32.8
110°	0.7	3.9	11.2	19.1	25.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.3	3.3	10.5	15.8	19.1
115°	0.7	2.6	9.2	15.1	15.8
117.5°	1.3	2.0	7.2	15.1	15.8
120°	1.3	1.3	5.9	14.5	16.4
122.5°	1.3	1.3	4.6	13.1	15.8
125°	0.7	1.3	3.9	9.9	13.8
127.5°	1.3	1.3	3.3	7.9	10.5
130°	1.3	1.3	2.6	5.9	7.9
132.5°	1.3	1.3	2.0	4.6	5.9
135°	1.3	1.3	1.3	3.3	4.6
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)