

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: P518156

Luminaire Tested: HVL8-8-LD4-1HI-30-UNV-C-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: P518156
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-30-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7811.0 lumens
Efficiency: N/A
Efficacy: 90.8 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

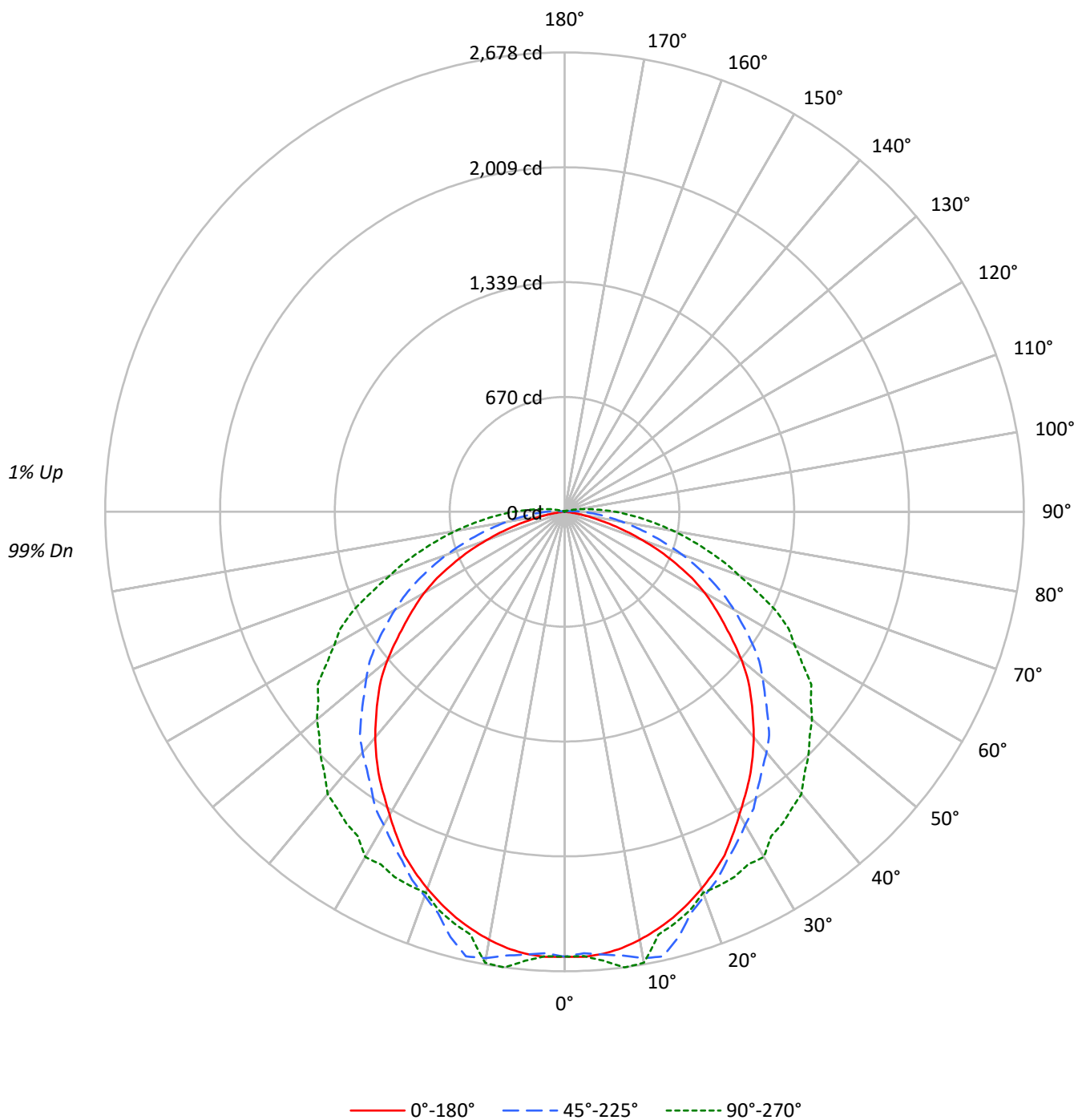
Input Watts (W): 86
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5233	5233	5233
5°	5231	5161	5207
10°	5171	5237	5240
15°	5087	5102	4863
20°	4982	4785	4651
25°	4870	4583	4680
30°	4696	4422	4732
35°	4575	4270	4648
40°	4445	4156	4677
45°	4305	4009	4592
50°	4133	3855	4557
55°	3875	3689	4555
60°	3683	3459	4360
65°	3281	3184	4221
70°	2706	2824	3785
75°	1964	2385	3456
80°	1136	1942	3102
85°	454	1484	2733

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 4592 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-1HI-30-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.2	3.2
10°-20°	709.7	9.1
20°-30°	1055.9	13.5
30°-40°	1269.2	16.2
40°-50°	1335.9	17.1
50°-60°	1239.6	15.9
60°-70°	980.1	12.5
70°-80°	598.7	7.7
80°-90°	260.8	3.3
90°-100°	81.2	1.0
100°-110°	18.2	0.2
110°-120°	7.3	0.1
120°-130°	4.1	0.1
130°-140°	1.1	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°	2014.7	25.8
0°-40°	3283.9	42.0
0°-60°	5859.4	75.0
0°-90°	7699.0	98.6
90°-120°	106.8	1.4
90°-150°	112.0	1.4
90°-180°	112.0	1.4
0°-180°	7811.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2593	2593	2593	2593	2593	
5°	2586	2581	2590	2619	2627	245
15°	2448	2542	2567	2482	2484	690
25°	2208	2349	2242	2309	2347	1014
35°	1884	1936	1965	2144	2217	1177
45°	1540	1546	1674	1939	2011	1187
55°	1134	1152	1335	1627	1757	1019
65°	718	740	941	1245	1358	711
75°	272	360	524	806	857	296
85°	24	84	204	397	455	38
90°	0	25	107	251	296	1
95°	0	6	47	138	168	0
105°	0	4	10	27	38	1
115°	0	2	7	12	13	1
125°	0	1	3	8	11	1
135°	1	1	1	3	4	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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CATALOG NUMBER: HVL8-8-LD4-1HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2592.8	2592.8	2592.8	2592.8	2592.8
2.5°	2596.0	2589.1	2574.9	2588.6	2592.3
5°	2586.5	2581.2	2590.2	2619.2	2626.6
7.5°	2564.8	2584.9	2608.7	2661.5	2678.4
10°	2532.6	2570.6	2641.9	2686.8	2669.4
12.5°	2493.5	2558.0	2653.6	2565.9	2525.2
15°	2448.1	2542.1	2566.9	2481.9	2483.5
17.5°	2394.8	2528.9	2452.3	2450.2	2434.9
20°	2337.2	2484.6	2383.1	2378.9	2362.5
22.5°	2275.4	2425.9	2321.9	2313.4	2357.8
25°	2208.3	2349.3	2242.1	2309.2	2346.7
27.5°	2124.3	2249.0	2175.6	2270.6	2317.6
30°	2039.3	2145.5	2107.4	2240.0	2323.5
32.5°	1959.5	2037.2	2051.4	2228.4	2242.1
35°	1884.0	1936.3	1965.4	2143.9	2216.8
37.5°	1801.1	1815.3	1892.5	2108.5	2178.7
40°	1716.6	1707.6	1831.2	2050.4	2147.6
42.5°	1625.7	1622.6	1766.2	2021.3	2069.9
45°	1539.6	1546.5	1673.8	1938.9	2011.3
47.5°	1451.4	1460.4	1586.1	1848.6	1938.4
50°	1349.0	1360.6	1507.9	1768.3	1884.0
52.5°	1238.0	1260.2	1431.9	1692.3	1809.0
55°	1134.0	1152.5	1335.2	1627.3	1756.7
57.5°	1038.9	1050.0	1235.4	1545.4	1643.2
60°	945.4	948.1	1141.4	1454.6	1548.1
62.5°	838.2	843.0	1044.7	1347.4	1472.6
65°	717.8	740.5	940.7	1244.9	1357.9
67.5°	605.3	644.9	834.5	1150.9	1210.1
70°	484.9	551.9	730.5	1040.5	1082.2
72.5°	374.5	453.2	623.8	916.9	975.5
75°	271.5	359.7	524.5	806.0	856.7
77.5°	182.7	272.5	431.5	683.5	750.5
80°	109.3	199.1	348.6	569.9	645.4
82.5°	56.0	133.6	270.4	478.0	545.6
85°	24.3	84.5	204.4	396.7	455.3
87.5°	6.9	48.1	150.5	320.6	370.3
90°	0.5	25.4	107.2	251.4	296.3
92.5°	0.5	12.1	75.5	190.1	224.5
95°	0.5	6.3	47.0	137.9	168.5
97.5°	0.5	3.7	28.5	97.7	123.6
100°	0.5	3.2	16.9	65.0	88.2
102.5°	0.5	3.7	11.6	41.2	57.6
105°	0.5	3.7	9.5	26.9	38.0
107.5°	1.1	3.7	8.5	20.1	26.4
110°	0.5	3.2	9.0	15.3	20.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.1	2.6	8.5	12.7	15.3
115°	0.5	2.1	7.4	12.1	12.7
117.5°	1.1	1.6	5.8	12.1	12.7
120°	1.1	1.1	4.8	11.6	13.2
122.5°	1.1	1.1	3.7	10.6	12.7
125°	0.5	1.1	3.2	7.9	11.1
127.5°	1.1	1.1	2.6	6.3	8.5
130°	1.1	1.1	2.1	4.8	6.3
132.5°	1.1	1.1	1.6	3.7	4.8
135°	1.1	1.1	1.1	2.6	3.7
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)