

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: P518225

Luminaire Tested: HVL8-8-LD4-2LO-35-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: P518225
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-35-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8211.0 lumens
Efficiency: N/A
Efficacy: 89.1 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

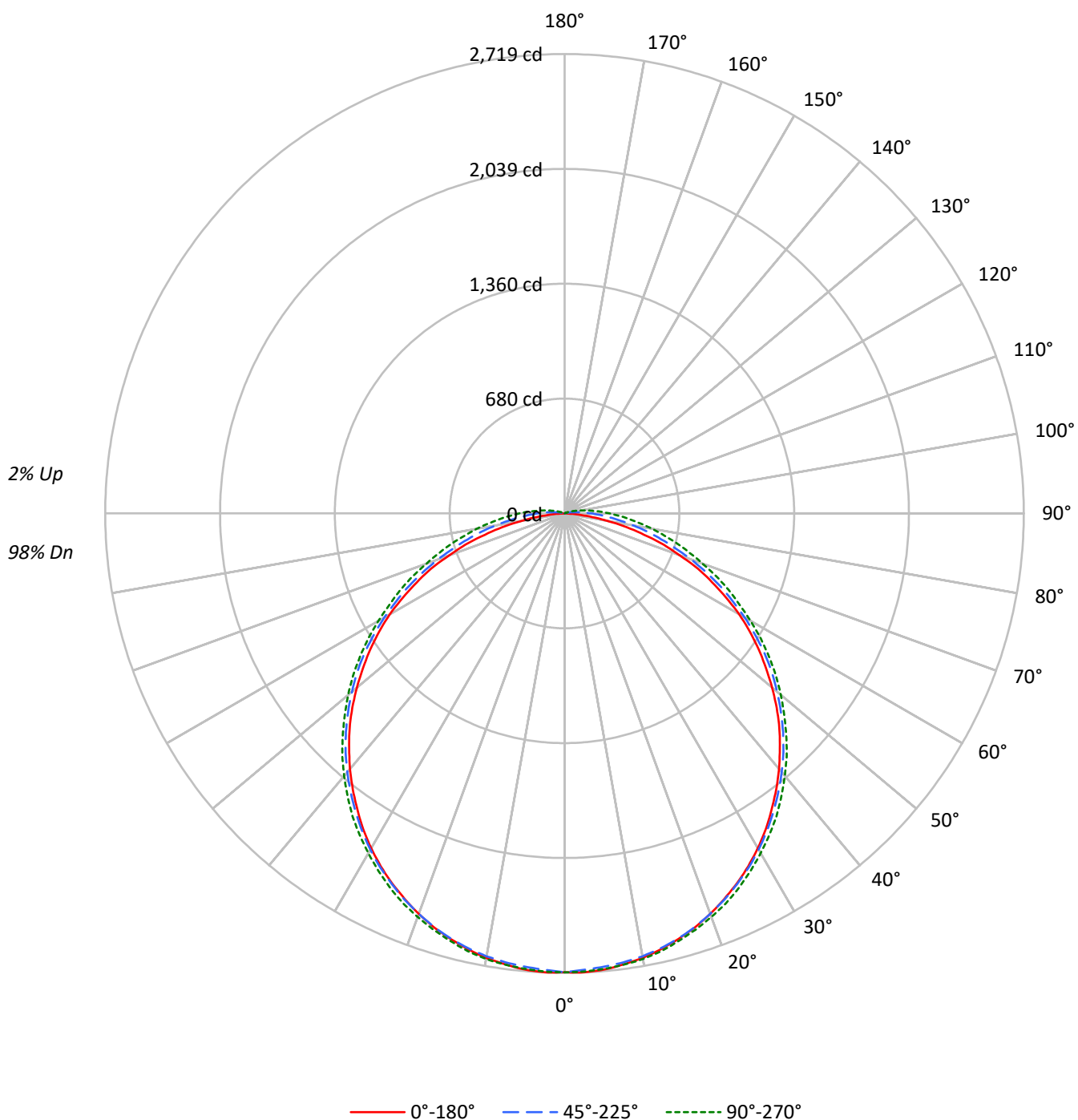
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5481	5481	5481
5°	5480	5365	5364
10°	5454	5276	5256
15°	5417	5176	5127
20°	5377	5063	5002
25°	5327	4947	4875
30°	5269	4823	4730
35°	5192	4686	4587
40°	5114	4541	4419
45°	5030	4383	4239
50°	4917	4199	4045
55°	4797	3997	3831
60°	4654	3733	3581
65°	4410	3437	3333
70°	4052	3086	3046
75°	3534	2702	2784
80°	2742	2325	2545
85°	1580	1947	2317

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5030 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.0	3.1
10°-20°	737.2	9.0
20°-30°	1118.5	13.6
30°-40°	1352.5	16.5
40°-50°	1411.2	17.2
50°-60°	1290.3	15.7
60°-70°	1005.8	12.2
70°-80°	629.2	7.7
80°-90°	285.8	3.5
90°-100°	95.8	1.2
100°-110°	24.0	0.3
110°-120°	3.8	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°	2112.7	25.7
0°-40°	3465.1	42.2
0°-60°	6166.6	75.1
0°-90°	8087.4	98.5
90°-120°	123.6	1.5
90°-150°	123.6	1.5
90°-180°	124.0	1.5
0°-180°	8211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2716	2716	2716	2716	2716	
5°	2710	2705	2693	2706	2706	257
15°	2607	2611	2604	2619	2618	736
25°	2416	2417	2420	2440	2444	1113
35°	2138	2148	2157	2179	2188	1338
45°	1799	1815	1830	1848	1857	1386
55°	1404	1421	1447	1468	1478	1254
65°	965	981	1015	1056	1072	955
75°	488	519	594	665	690	521
85°	84	156	268	355	386	107
90°	1	58	158	238	266	3
95°	1	15	82	148	172	0
105°	1	2	13	40	53	1
115°	2	2	3	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°	2715.7	2715.7	2715.7	2715.7	2715.7
2.5°	2718.9	2715.1	2702.9	2715.1	2714.4
5°	2709.9	2704.8	2692.7	2705.5	2705.5
7.5°	2692.0	2690.1	2679.2	2693.9	2693.9
10°	2670.9	2670.2	2661.3	2677.3	2677.9
12.5°	2641.4	2644.0	2635.7	2651.0	2653.0
15°	2606.9	2611.4	2604.3	2619.0	2618.4
17.5°	2569.1	2571.7	2566.5	2583.2	2582.5
20°	2522.4	2525.6	2521.7	2539.0	2540.9
22.5°	2470.5	2475.0	2474.3	2492.3	2497.4
25°	2415.5	2417.4	2419.9	2440.4	2444.3
27.5°	2354.6	2357.8	2362.3	2380.9	2384.7
30°	2288.1	2293.2	2298.3	2317.5	2322.6
32.5°	2217.6	2222.8	2229.2	2254.1	2256.7
35°	2138.2	2147.9	2156.8	2178.6	2187.5
37.5°	2058.9	2071.0	2079.4	2102.4	2109.4
40°	1975.0	1987.2	2000.6	2024.9	2029.4
42.5°	1887.3	1901.4	1917.4	1939.1	1946.8
45°	1798.9	1814.9	1829.7	1847.6	1856.6
47.5°	1703.6	1719.6	1737.5	1758.0	1763.7
50°	1605.0	1623.5	1642.7	1661.9	1672.2
52.5°	1503.8	1526.2	1548.0	1568.5	1578.1
55°	1403.9	1420.6	1446.8	1468.0	1477.6
57.5°	1300.2	1314.3	1338.0	1372.6	1377.7
60°	1194.6	1207.4	1231.7	1259.9	1271.4
62.5°	1078.1	1095.4	1121.0	1156.8	1167.1
65°	964.8	981.4	1015.3	1055.7	1072.3
67.5°	855.3	861.1	904.6	946.8	973.7
70°	726.0	747.7	798.3	850.2	870.7
72.5°	614.6	636.4	692.0	752.9	778.5
75°	488.5	518.6	594.1	665.2	690.1
77.5°	377.7	411.0	504.5	576.2	605.0
80°	263.8	315.6	417.4	498.1	529.4
82.5°	165.8	229.8	338.7	423.2	450.7
85°	84.5	156.2	268.2	354.7	386.0
87.5°	22.4	101.2	208.7	291.3	323.3
90°	0.6	58.3	158.1	237.5	266.3
92.5°	0.6	32.6	117.8	188.9	218.3
95°	0.6	15.4	81.9	148.5	171.6
97.5°	0.6	6.4	56.3	112.0	135.1
100°	0.6	3.2	35.9	81.3	101.2
102.5°	1.3	1.9	22.4	58.3	74.3
105°	1.3	1.9	13.4	39.7	53.1
107.5°	1.3	1.9	7.7	26.9	36.5
110°	1.9	1.9	4.5	16.6	24.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	1.9	2.6	10.9	16.0
115°	1.9	1.9	2.6	7.0	10.2
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)