

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: P517720

Luminaire Tested: HVL12-8-LD4-3STD-50-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: P517720
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3STD-50-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20539.0 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

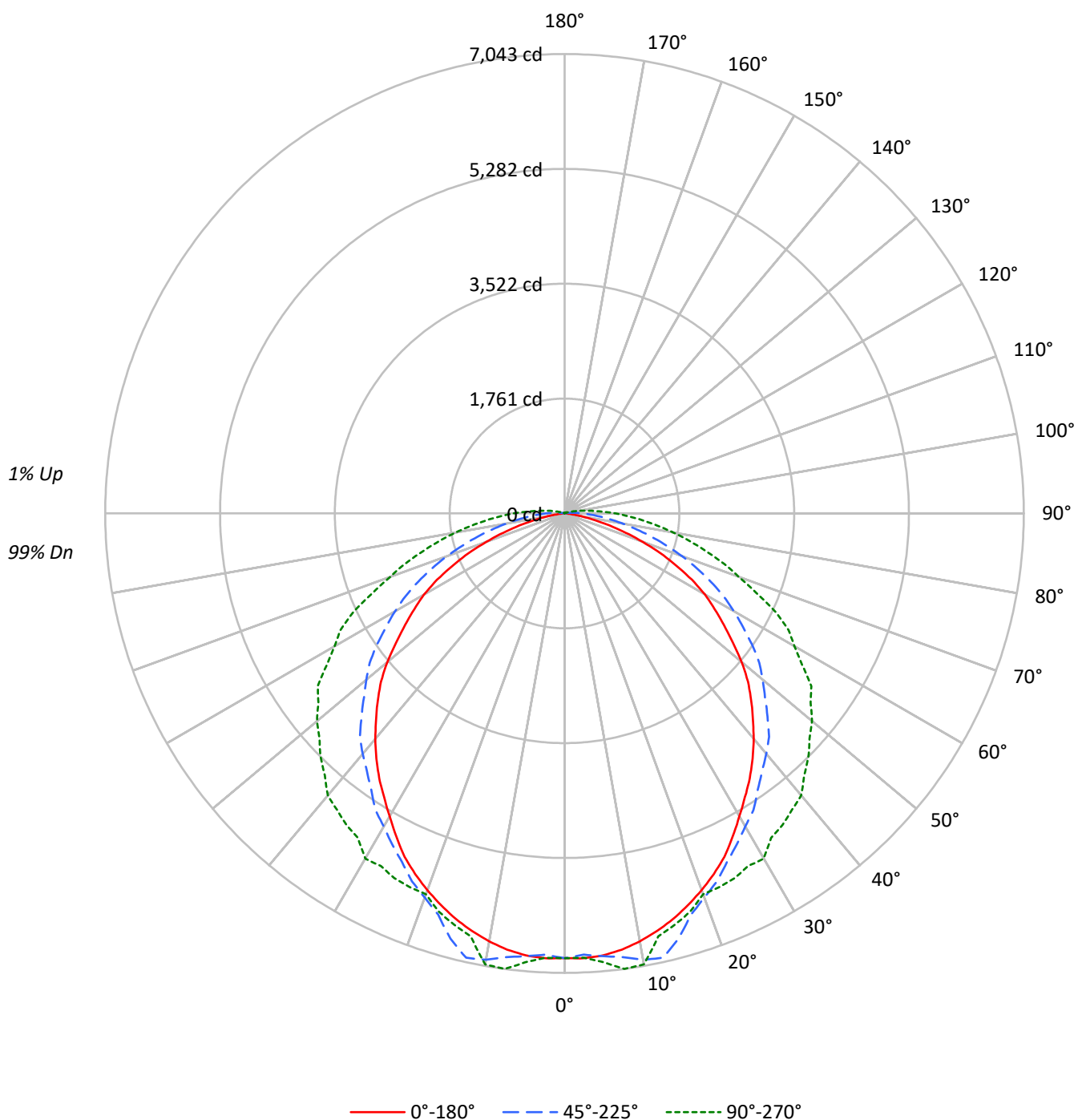
Input Watts (W): 196.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	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	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	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°	9173	9173	9173
5°	9169	9093	9194
10°	9065	9274	9316
15°	8917	9080	8707
20°	8733	8559	8386
25°	8538	8243	8500
30°	8232	7997	8659
35°	8020	7767	8574
40°	7792	7610	8701
45°	7546	7394	8626
50°	7245	7167	8651
55°	6793	6925	8752
60°	6457	6568	8500
65°	5752	6131	8374
70°	4744	5538	7678
75°	3443	4796	7219
80°	1992	4054	6760
85°	797	3298	6361

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 8752 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	655.3	3.2
10°-20°	1866.1	9.1
20°-30°	2776.5	13.5
30°-40°	3337.3	16.2
40°-50°	3512.7	17.1
50°-60°	3259.4	15.9
60°-70°	2577.1	12.5
70°-80°	1574.2	7.7
80°-90°	685.9	3.3
90°-100°	213.5	1.0
100°-110°	48.0	0.2
110°-120°	19.3	0.1
120°-130°	10.8	0.1
130°-140°	2.9	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°	5297.8	25.8
0°-40°	8635.1	42.0
0°-60°	15407.3	75.0
0°-90°	20244.5	98.6
90°-120°	280.8	1.4
90°-150°	294.5	1.4
90°-180°	295.0	1.4
0°-180°	20539.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6818	6818	6818	6818	6818	
5°	6801	6787	6811	6887	6907	645
15°	6437	6684	6750	6526	6530	1813
25°	5807	6178	5896	6072	6171	2666
35°	4954	5092	5168	5637	5829	3096
45°	4048	4066	4401	5098	5289	3121
55°	2982	3030	3511	4279	4619	2679
65°	1887	1947	2474	3274	3571	1869
75°	714	946	1379	2119	2253	779
85°	64	222	538	1043	1197	99
90°	1	67	282	661	779	3
95°	1	17	124	362	443	1
105°	1	10	25	71	100	2
115°	1	6	19	32	33	2
125°	1	3	8	21	29	2
135°	3	3	3	7	10	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°	6817.8	6817.8	6817.8	6817.8	6817.8
2.5°	6826.2	6808.1	6770.6	6806.7	6816.4
5°	6801.2	6787.3	6810.9	6887.3	6906.7
7.5°	6744.2	6797.0	6859.5	6998.4	7042.8
10°	6659.5	6759.5	6947.0	7065.0	7019.2
12.5°	6556.7	6726.2	6977.5	6747.0	6640.1
15°	6437.3	6684.5	6749.8	6526.2	6530.3
17.5°	6297.0	6649.8	6448.4	6442.8	6402.6
20°	6145.6	6533.1	6266.5	6255.3	6212.3
22.5°	5983.1	6379.0	6105.4	6083.1	6199.8
25°	5806.8	6177.6	5895.6	6072.0	6170.6
27.5°	5585.9	5913.7	5720.6	5970.6	6094.2
30°	5362.3	5641.5	5541.5	5890.1	6109.5
32.5°	5152.6	5356.8	5394.3	5859.5	5895.6
35°	4954.0	5091.5	5167.9	5637.3	5829.0
37.5°	4736.0	4773.5	4976.2	5544.3	5729.0
40°	4513.7	4490.1	4815.1	5391.5	5647.0
42.5°	4274.9	4266.5	4644.3	5315.1	5442.9
45°	4048.5	4066.5	4401.2	5098.4	5288.7
47.5°	3816.5	3840.2	4170.7	4861.0	5097.1
50°	3547.1	3577.7	3965.1	4649.8	4954.0
52.5°	3255.4	3313.8	3765.2	4449.9	4756.8
55°	2981.8	3030.5	3511.0	4279.0	4619.3
57.5°	2731.9	2761.0	3248.5	4063.8	4320.7
60°	2486.0	2493.0	3001.3	3824.9	4070.7
62.5°	2204.1	2216.6	2747.1	3542.9	3872.1
65°	1887.4	1947.2	2473.5	3273.5	3570.7
67.5°	1591.6	1695.8	2194.4	3026.3	3181.8
70°	1275.0	1451.3	1920.8	2736.0	2845.7
72.5°	984.7	1191.6	1640.2	2411.0	2565.2
75°	713.9	945.8	1379.1	2119.4	2252.7
77.5°	480.5	716.6	1134.7	1797.2	1973.5
80°	287.5	523.6	916.6	1498.6	1697.2
82.5°	147.2	351.4	711.1	1256.9	1434.7
85°	63.9	222.2	537.5	1043.0	1197.2
87.5°	18.1	126.4	395.8	843.0	973.6
90°	1.4	66.7	281.9	661.1	779.1
92.5°	1.4	31.9	198.6	500.0	590.3
95°	1.4	16.7	123.6	362.5	443.0
97.5°	1.4	9.7	75.0	256.9	325.0
100°	1.4	8.3	44.4	170.8	231.9
102.5°	1.4	9.7	30.6	108.3	151.4
105°	1.4	9.7	25.0	70.8	100.0
107.5°	2.8	9.7	22.2	52.8	69.4
110°	1.4	8.3	23.6	40.3	54.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.8	6.9	22.2	33.3	40.3
115°	1.4	5.6	19.4	31.9	33.3
117.5°	2.8	4.2	15.3	31.9	33.3
120°	2.8	2.8	12.5	30.6	34.7
122.5°	2.8	2.8	9.7	27.8	33.3
125°	1.4	2.8	8.3	20.8	29.2
127.5°	2.8	2.8	6.9	16.7	22.2
130°	2.8	2.8	5.6	12.5	16.7
132.5°	2.8	2.8	4.2	9.7	12.5
135°	2.8	2.8	2.8	6.9	9.7
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)