

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: P518298

Luminaire Tested: HVL8-8-LD4-3STD-50-UNV-O-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: P518298
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-50-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17813.0 lumens
Efficiency: N/A
Efficacy: 93.3 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

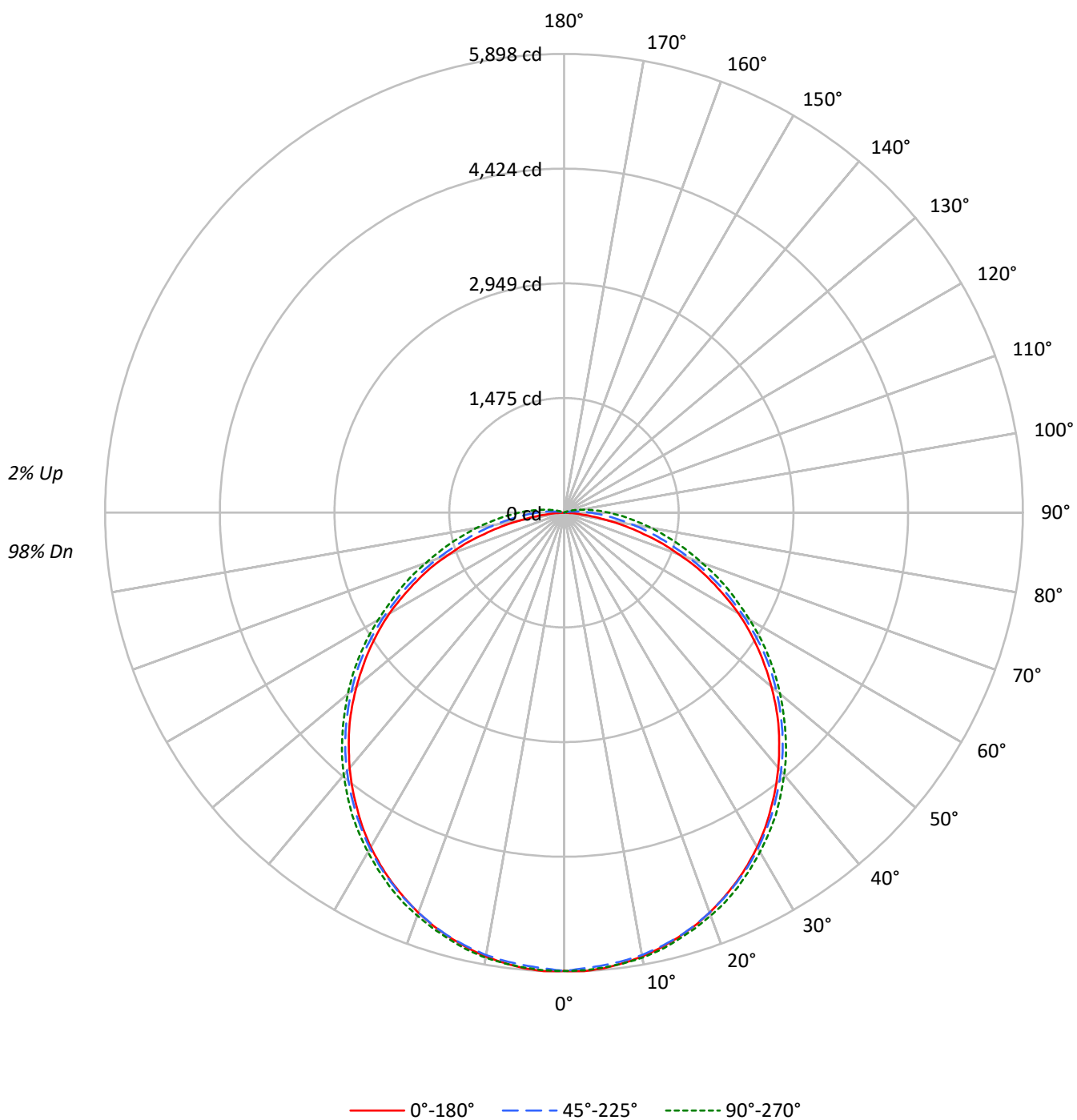
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	11890	11890	11890
5°	11889	11639	11636
10°	11831	11445	11403
15°	11751	11229	11124
20°	11664	10984	10851
25°	11557	10732	10575
30°	11430	10462	10261
35°	11265	10165	9950
40°	11094	9851	9588
45°	10911	9508	9196
50°	10667	9110	8775
55°	10407	8672	8311
60°	10097	8099	7769
65°	9568	7456	7232
70°	8790	6696	6607
75°	7667	5860	6039
80°	5948	5044	5521
85°	3428	4225	5027

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 10911 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	557.5	3.1
10°-20°	1599.2	9.0
20°-30°	2426.5	13.6
30°-40°	2934.1	16.5
40°-50°	3061.5	17.2
50°-60°	2799.1	15.7
60°-70°	2182.0	12.2
70°-80°	1365.0	7.7
80°-90°	620.0	3.5
90°-100°	207.8	1.2
100°-110°	52.2	0.3
110°-120°	8.2	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°	4583.2	25.7
0°-40°	7517.3	42.2
0°-60°	13377.9	75.1
0°-90°	17544.8	98.5
90°-120°	268.2	1.5
90°-150°	268.2	1.5
90°-180°	268.0	1.5
0°-180°	17813.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5892	5892	5892	5892	5892	
5°	5879	5868	5842	5869	5869	558
15°	5655	5665	5650	5682	5680	1596
25°	5240	5244	5250	5294	5303	2415
35°	4639	4660	4679	4726	4746	2903
45°	3903	3937	3969	4008	4028	3007
55°	3046	3082	3139	3185	3205	2721
65°	2093	2129	2203	2290	2326	2071
75°	1060	1125	1289	1443	1497	1130
85°	183	339	582	769	838	232
90°	1	126	343	515	578	7
95°	1	33	178	322	372	1
105°	3	4	29	86	115	3
115°	4	4	6	15	22	3
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°	5891.5	5891.5	5891.5	5891.5	5891.5
2.5°	5898.4	5890.1	5863.7	5890.1	5888.7
5°	5879.0	5867.9	5841.5	5869.2	5869.2
7.5°	5840.1	5835.9	5812.3	5844.2	5844.2
10°	5794.2	5792.9	5773.4	5808.1	5809.5
12.5°	5730.4	5735.9	5717.9	5751.2	5755.4
15°	5655.4	5665.1	5649.8	5681.7	5680.4
17.5°	5573.4	5579.0	5567.9	5604.0	5602.6
20°	5472.0	5479.0	5470.6	5508.1	5512.3
22.5°	5359.5	5369.3	5367.9	5406.8	5417.9
25°	5240.1	5244.3	5249.8	5294.3	5302.6
27.5°	5108.2	5115.1	5124.8	5165.1	5173.4
30°	4963.7	4974.8	4985.9	5027.6	5038.7
32.5°	4810.9	4822.1	4835.9	4890.1	4895.7
35°	4638.7	4659.6	4679.0	4726.2	4745.7
37.5°	4466.5	4492.9	4511.0	4561.0	4576.2
40°	4284.6	4311.0	4340.1	4392.9	4402.6
42.5°	4094.3	4124.9	4159.6	4206.8	4223.5
45°	3902.6	3937.4	3969.3	4008.2	4027.6
47.5°	3695.7	3730.4	3769.3	3813.8	3826.3
50°	3481.8	3522.1	3563.8	3605.4	3627.7
52.5°	3262.4	3311.0	3358.2	3402.7	3423.5
55°	3045.7	3081.8	3138.8	3184.6	3205.4
57.5°	2820.7	2851.3	2902.7	2977.7	2988.8
60°	2591.6	2619.4	2672.1	2733.2	2758.2
62.5°	2338.8	2376.3	2431.9	2509.6	2531.9
65°	2093.0	2129.1	2202.7	2290.2	2326.3
67.5°	1855.5	1868.0	1962.4	2054.1	2112.4
70°	1574.9	1622.2	1731.9	1844.4	1888.8
72.5°	1333.3	1380.5	1501.3	1633.3	1688.8
75°	1059.7	1125.0	1288.8	1443.0	1497.2
77.5°	819.4	891.6	1094.4	1250.0	1312.5
80°	572.2	684.7	905.5	1080.5	1148.6
82.5°	359.7	498.6	734.7	918.0	977.7
85°	183.3	338.9	581.9	769.4	837.5
87.5°	48.6	219.4	452.8	631.9	701.4
90°	1.4	126.4	343.0	515.3	577.8
92.5°	1.4	70.8	255.5	409.7	473.6
95°	1.4	33.3	177.8	322.2	372.2
97.5°	1.4	13.9	122.2	243.0	293.0
100°	1.4	6.9	77.8	176.4	219.4
102.5°	2.8	4.2	48.6	126.4	161.1
105°	2.8	4.2	29.2	86.1	115.3
107.5°	2.8	4.2	16.7	58.3	79.2
110°	4.2	4.2	9.7	36.1	52.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.2	4.2	5.6	23.6	34.7
115°	4.2	4.2	5.6	15.3	22.2
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)