

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: P518263

Luminaire Tested: HVL8-8-LD4-3HI-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: P518263
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-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: 29099.0 lumens
Efficiency: N/A
Efficacy: 115.6 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

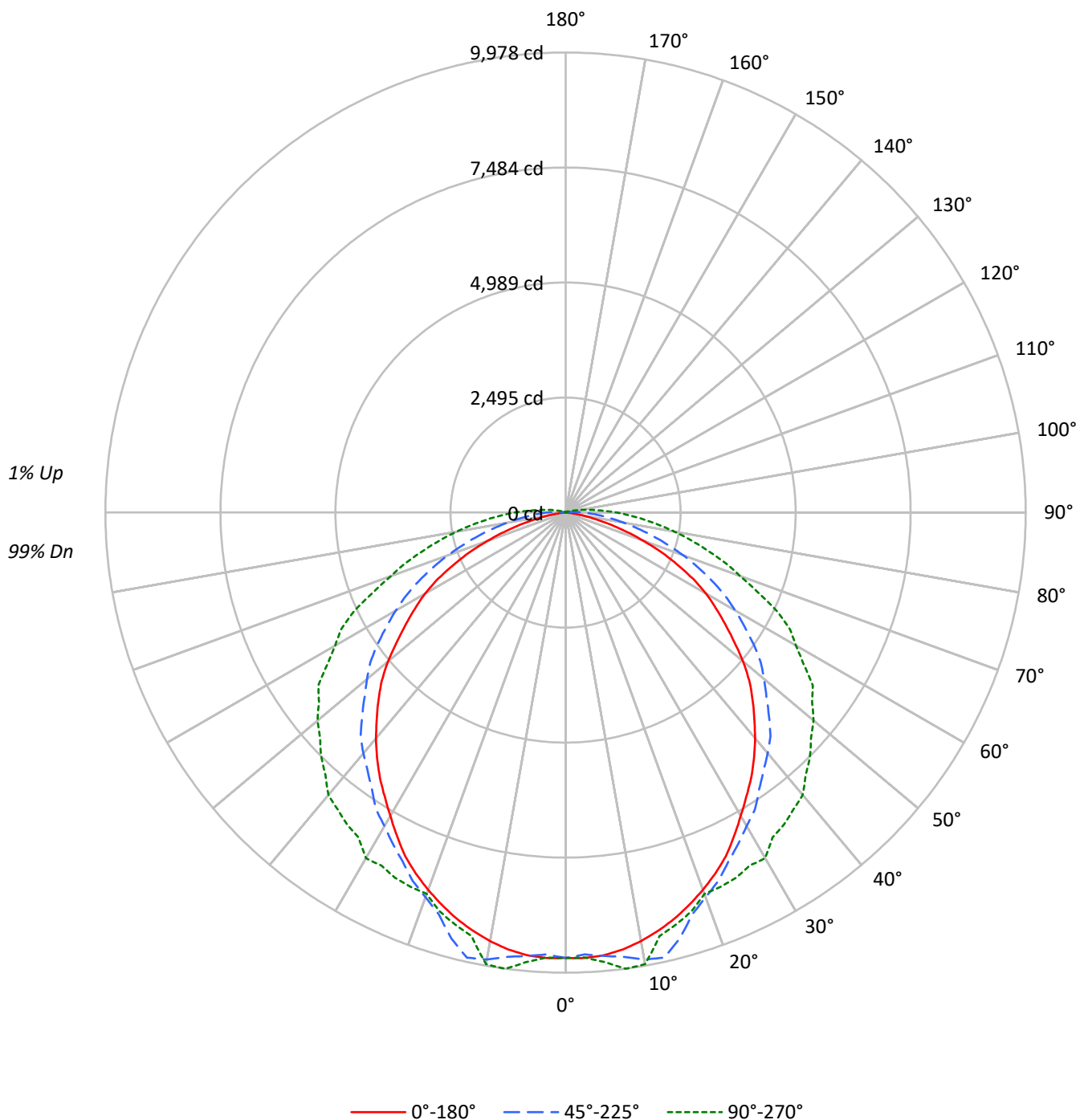
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	19495	19495	19495
5°	19486	19227	19400
10°	19265	19512	19520
15°	18950	19006	18118
20°	18560	17825	17326
25°	18144	17075	17435
30°	17494	16475	17627
35°	17044	15906	17315
40°	16559	15484	17423
45°	16037	14936	17108
50°	15396	14360	16978
55°	14435	13743	16968
60°	13722	12888	16244
65°	12224	11863	15726
70°	10082	10521	14103
75°	7318	8885	12874
80°	4234	7235	11557
85°	1693	5529	10180

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 17108 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	928.4	3.2
10°-20°	2643.8	9.1
20°-30°	3933.6	13.5
30°-40°	4728.2	16.2
40°-50°	4976.7	17.1
50°-60°	4617.9	15.9
60°-70°	3651.2	12.5
70°-80°	2230.3	7.7
80°-90°	971.7	3.3
90°-100°	302.5	1.0
100°-110°	68.0	0.2
110°-120°	27.3	0.1
120°-130°	15.4	0.1
130°-140°	4.1	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°	7505.7	25.8
0°-40°	12234.0	42.0
0°-60°	21828.5	75.0
0°-90°	28681.7	98.6
90°-120°	397.8	1.4
90°-150°	417.3	1.4
90°-180°	417.0	1.4
0°-180°	29099.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9659	9659	9659	9659	9659	
5°	9636	9616	9649	9758	9785	913
15°	9120	9470	9563	9246	9252	2569
25°	8227	8752	8353	8603	8742	3777
35°	7019	7214	7322	7987	8258	4387
45°	5736	5761	6236	7223	7493	4421
55°	4225	4294	4974	6062	6544	3796
65°	2674	2759	3504	4638	5059	2648
75°	1011	1340	1954	3003	3192	1104
85°	90	315	762	1478	1696	140
90°	2	94	399	937	1104	4
95°	2	24	175	514	628	2
105°	2	14	35	100	142	3
115°	2	8	28	45	47	3
125°	2	4	12	30	41	3
135°	4	4	4	10	14	2
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°	9659.3	9659.3	9659.3	9659.3	9659.3
2.5°	9671.1	9645.5	9592.4	9643.5	9657.3
5°	9635.7	9616.0	9649.4	9757.7	9785.2
7.5°	9555.0	9629.8	9718.3	9915.1	9978.0
10°	9435.0	9576.6	9842.3	10009.5	9944.6
12.5°	9289.4	9529.4	9885.6	9558.9	9407.4
15°	9120.1	9470.4	9562.9	9246.1	9252.0
17.5°	8921.4	9421.2	9135.9	9128.0	9071.0
20°	8706.9	9255.9	8878.1	8862.4	8801.4
22.5°	8476.7	9037.5	8649.9	8618.4	8783.7
25°	8226.8	8752.2	8352.8	8602.6	8742.4
27.5°	7914.0	8378.3	8104.8	8459.0	8634.1
30°	7597.2	7992.7	7851.0	8344.9	8655.8
32.5°	7300.1	7589.3	7642.4	8301.6	8352.8
35°	7018.7	7213.5	7321.7	7986.8	8258.3
37.5°	6709.7	6762.9	7050.2	7854.9	8116.6
40°	6394.9	6361.5	6821.9	7638.5	8000.5
42.5°	6056.5	6044.7	6579.9	7530.3	7711.3
45°	5735.8	5761.3	6235.5	7223.3	7492.9
47.5°	5407.2	5440.6	5908.9	6886.8	7221.3
50°	5025.4	5068.7	5617.7	6587.8	7018.7
52.5°	4612.2	4694.9	5334.3	6304.4	6739.3
55°	4224.6	4293.5	4974.3	6062.4	6544.5
57.5°	3870.4	3911.7	4602.4	5757.4	6121.4
60°	3522.1	3532.0	4252.1	5419.0	5767.2
62.5°	3122.7	3140.4	3892.0	5019.5	5485.9
65°	2674.1	2758.7	3504.4	4637.8	5058.9
67.5°	2254.9	2402.5	3108.9	4287.5	4507.9
70°	1806.3	2056.2	2721.3	3876.3	4031.8
72.5°	1395.1	1688.3	2323.8	3415.9	3634.3
75°	1011.4	1340.0	1953.9	3002.7	3191.6
77.5°	680.8	1015.3	1607.6	2546.2	2796.1
80°	407.3	741.8	1298.7	2123.1	2404.5
82.5°	208.6	497.8	1007.4	1780.7	2032.6
85°	90.5	314.8	761.5	1477.7	1696.1
87.5°	25.6	179.1	560.8	1194.4	1379.3
90°	2.0	94.4	399.4	936.6	1103.9
92.5°	2.0	45.3	281.4	708.4	836.3
95°	2.0	23.6	175.1	513.6	627.7
97.5°	2.0	13.8	106.3	364.0	460.4
100°	2.0	11.8	63.0	242.0	328.6
102.5°	2.0	13.8	43.3	153.5	214.5
105°	2.0	13.8	35.4	100.4	141.7
107.5°	3.9	13.8	31.5	74.8	98.4
110°	2.0	11.8	33.5	57.1	76.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.9	9.8	31.5	47.2	57.1
115°	2.0	7.9	27.5	45.3	47.2
117.5°	3.9	5.9	21.6	45.3	47.2
120°	3.9	3.9	17.7	43.3	49.2
122.5°	3.9	3.9	13.8	39.4	47.2
125°	2.0	3.9	11.8	29.5	41.3
127.5°	3.9	3.9	9.8	23.6	31.5
130°	3.9	3.9	7.9	17.7	23.6
132.5°	3.9	3.9	5.9	13.8	17.7
135°	3.9	3.9	3.9	9.8	13.8
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)