

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: P518281

Luminaire Tested: HVL8-8-LD4-3LO-50-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: P518281
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-50-UNV-O-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: 15894.0 lumens
Efficiency: N/A
Efficacy: 117.9 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

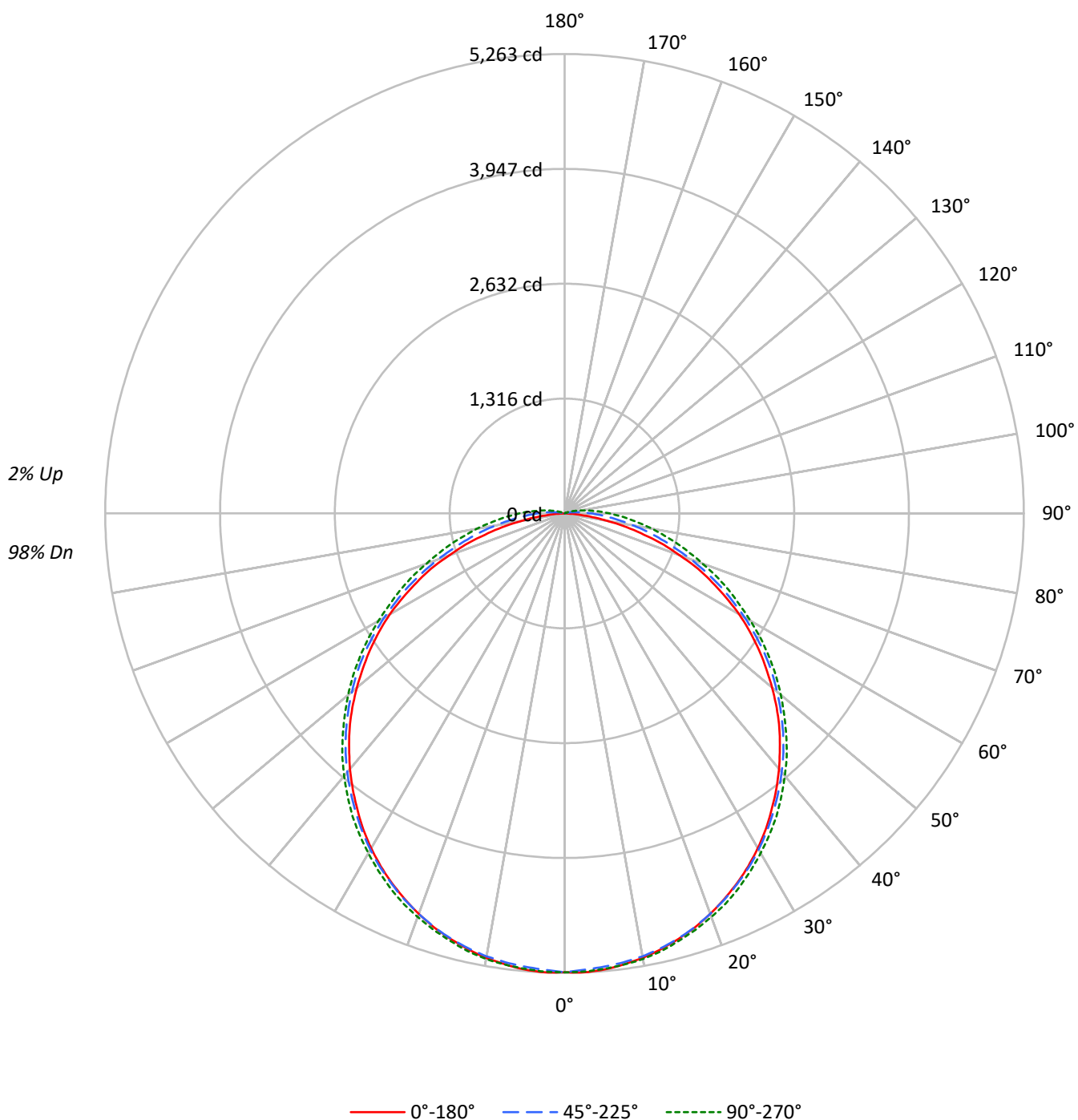
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	10609	10609	10609
5°	10608	10386	10383
10°	10556	10212	10175
15°	10485	10019	9925
20°	10408	9801	9683
25°	10312	9576	9436
30°	10199	9335	9156
35°	10051	9070	8878
40°	9899	8790	8555
45°	9736	8484	8205
50°	9518	8128	7830
55°	9286	7738	7416
60°	9009	7227	6932
65°	8537	6653	6453
70°	7844	5974	5895
75°	6841	5229	5389
80°	5307	4501	4926
85°	3060	3770	4485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9736 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	497.5	3.1
10°-20°	1426.9	9.0
20°-30°	2165.1	13.6
30°-40°	2618.0	16.5
40°-50°	2731.7	17.2
50°-60°	2497.5	15.7
60°-70°	1947.0	12.2
70°-80°	1217.9	7.7
80°-90°	553.2	3.5
90°-100°	185.4	1.2
100°-110°	46.5	0.3
110°-120°	7.3	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°	4089.5	25.7
0°-40°	6707.5	42.2
0°-60°	11936.7	75.1
0°-90°	15654.7	98.5
90°-120°	239.3	1.5
90°-150°	239.3	1.5
90°-180°	239.0	1.5
0°-180°	15894.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5257	5257	5257	5257	5257	
5°	5246	5236	5212	5237	5237	498
15°	5046	5055	5041	5070	5068	1424
25°	4676	4679	4684	4724	4731	2154
35°	4139	4158	4175	4217	4234	2591
45°	3482	3513	3542	3576	3594	2683
55°	2718	2750	2801	2842	2860	2428
65°	1868	1900	1965	2044	2076	1848
75°	946	1004	1150	1288	1336	1008
85°	164	302	519	686	747	207
90°	1	113	306	460	516	6
95°	1	30	159	288	332	1
105°	2	4	26	77	103	3
115°	4	4	5	14	20	2
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°	5256.8	5256.8	5256.8	5256.8	5256.8
2.5°	5263.0	5255.5	5232.0	5255.5	5254.3
5°	5245.6	5235.7	5212.2	5236.9	5236.9
7.5°	5210.9	5207.2	5186.1	5214.6	5214.6
10°	5170.0	5168.8	5151.4	5182.4	5183.7
12.5°	5113.0	5118.0	5101.9	5131.6	5135.3
15°	5046.1	5054.8	5041.2	5069.7	5068.4
17.5°	4973.0	4978.0	4968.0	5000.3	4999.0
20°	4882.5	4888.7	4881.3	4914.8	4918.5
22.5°	4782.2	4790.8	4789.6	4824.3	4834.2
25°	4675.6	4679.3	4684.3	4723.9	4731.3
27.5°	4557.9	4564.1	4572.7	4608.7	4616.1
30°	4429.0	4438.9	4448.8	4486.0	4495.9
32.5°	4292.7	4302.6	4315.0	4363.3	4368.3
35°	4139.0	4157.6	4174.9	4217.1	4234.4
37.5°	3985.3	4008.9	4025.0	4069.6	4083.2
40°	3823.0	3846.5	3872.6	3919.7	3928.3
42.5°	3653.2	3680.5	3711.5	3753.6	3768.5
45°	3482.2	3513.2	3541.7	3576.4	3593.7
47.5°	3297.6	3328.5	3363.2	3402.9	3414.1
50°	3106.7	3142.7	3179.8	3217.0	3236.8
52.5°	2910.9	2954.3	2996.4	3036.1	3054.7
55°	2717.6	2749.8	2800.6	2841.5	2860.1
57.5°	2516.9	2544.1	2590.0	2656.9	2666.8
60°	2312.4	2337.2	2384.3	2438.8	2461.1
62.5°	2086.8	2120.3	2169.9	2239.3	2259.1
65°	1867.5	1899.7	1965.4	2043.5	2075.7
67.5°	1655.6	1666.8	1751.0	1832.8	1884.9
70°	1405.3	1447.4	1545.3	1645.7	1685.3
72.5°	1189.7	1231.8	1339.6	1457.3	1506.9
75°	945.5	1003.8	1150.0	1287.6	1335.9
77.5°	731.1	795.6	976.5	1115.3	1171.1
80°	510.6	610.9	808.0	964.1	1024.8
82.5°	321.0	444.9	655.5	819.1	872.4
85°	163.6	302.4	519.2	686.5	747.3
87.5°	43.4	195.8	404.0	563.8	625.8
90°	1.2	112.8	306.1	459.8	515.5
92.5°	1.2	63.2	228.0	365.6	422.6
95°	1.2	29.7	158.6	287.5	332.1
97.5°	1.2	12.4	109.1	216.9	261.5
100°	1.2	6.2	69.4	157.4	195.8
102.5°	2.5	3.7	43.4	112.8	143.7
105°	2.5	3.7	26.0	76.8	102.9
107.5°	2.5	3.7	14.9	52.0	70.6
110°	3.7	3.7	8.7	32.2	47.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.7	3.7	5.0	21.1	31.0
115°	3.7	3.7	5.0	13.6	19.8
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)