

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: P518279

Luminaire Tested: HVL8-8-LD4-3LO-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: P518279
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-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: 17554.0 lumens
Efficiency: N/A
Efficacy: 130.2 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

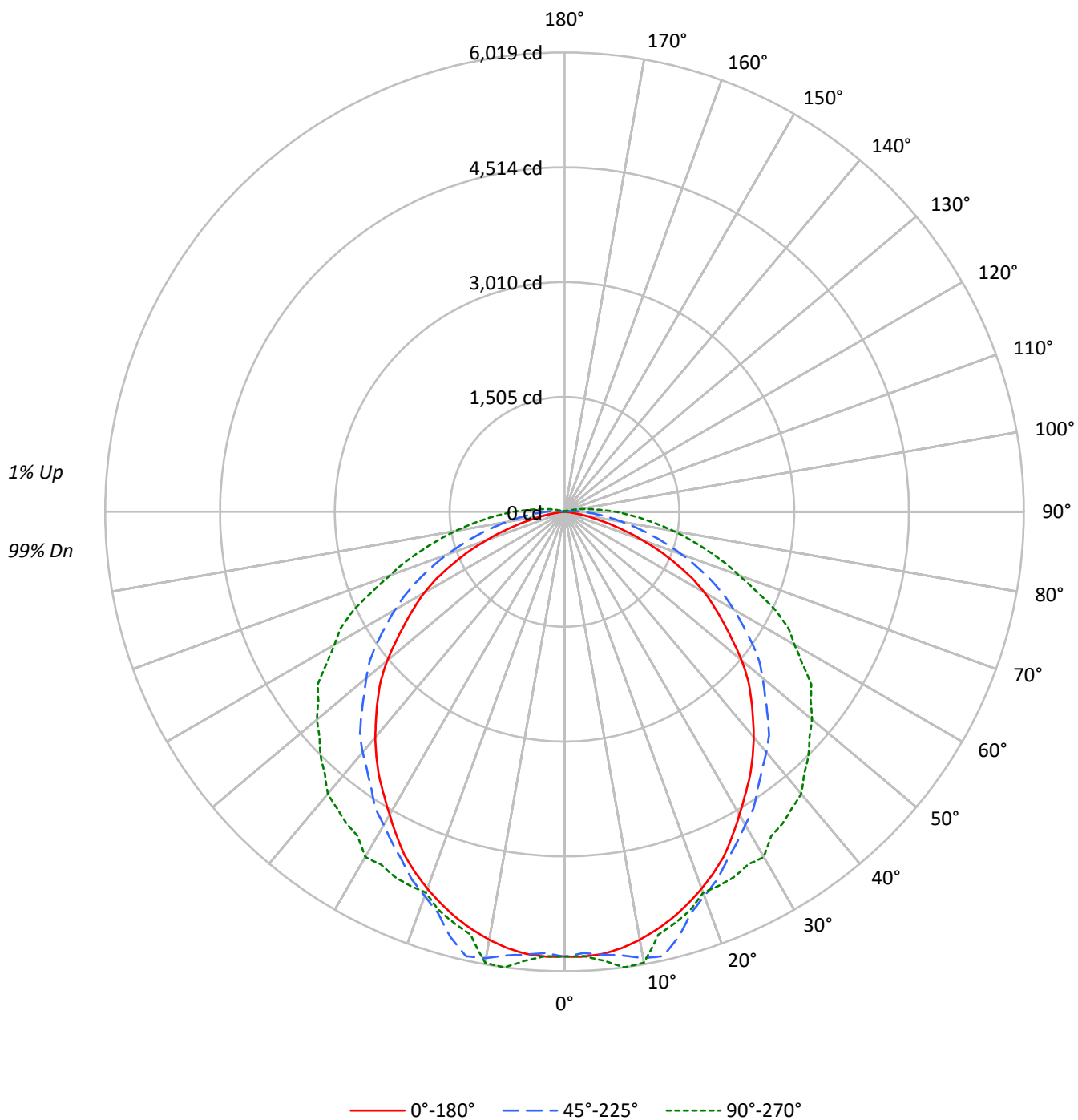
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	11760	11760	11760
5°	11755	11599	11703
10°	11622	11770	11775
15°	11432	11465	10929
20°	11196	10753	10452
25°	10945	10301	10518
30°	10554	9938	10634
35°	10282	9595	10445
40°	9989	9341	10510
45°	9674	9010	10321
50°	9288	8663	10242
55°	8708	8291	10236
60°	8278	7775	9799
65°	7374	7156	9487
70°	6082	6347	8508
75°	4414	5360	7766
80°	2554	4364	6972
85°	1021	3335	6141

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10321 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	560.0	3.2
10°-20°	1594.8	9.1
20°-30°	2373.0	13.5
30°-40°	2852.3	16.2
40°-50°	3002.2	17.1
50°-60°	2785.7	15.9
60°-70°	2202.6	12.5
70°-80°	1345.4	7.7
80°-90°	586.2	3.3
90°-100°	182.5	1.0
100°-110°	41.0	0.2
110°-120°	16.5	0.1
120°-130°	9.3	0.1
130°-140°	2.5	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°	4527.8	25.8
0°-40°	7380.1	42.0
0°-60°	13168.1	75.0
0°-90°	17302.3	98.6
90°-120°	240.0	1.4
90°-150°	251.7	1.4
90°-180°	252.0	1.4
0°-180°	17554.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5827	5827	5827	5827	5827	
5°	5813	5801	5821	5886	5903	551
15°	5502	5713	5769	5578	5581	1550
25°	4963	5280	5039	5190	5274	2278
35°	4234	4352	4417	4818	4982	2646
45°	3460	3476	3762	4358	4520	2667
55°	2548	2590	3001	3657	3948	2290
65°	1613	1664	2114	2798	3052	1598
75°	610	808	1179	1811	1925	666
85°	55	190	459	891	1023	84
90°	1	57	241	565	666	3
95°	1	14	106	310	379	1
105°	1	8	21	60	86	2
115°	1	5	17	27	28	2
125°	1	2	7	18	25	2
135°	2	2	2	6	8	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°	5827.0	5827.0	5827.0	5827.0	5827.0
2.5°	5834.1	5818.7	5786.6	5817.5	5825.8
5°	5812.7	5800.9	5821.0	5886.3	5902.9
7.5°	5764.1	5809.2	5862.6	5981.3	6019.3
10°	5691.7	5777.1	5937.4	6038.3	5999.1
12.5°	5603.8	5748.6	5963.5	5766.4	5675.0
15°	5501.7	5713.0	5768.8	5577.7	5581.3
17.5°	5381.8	5683.3	5511.2	5506.5	5472.1
20°	5252.5	5583.6	5355.7	5346.2	5309.4
22.5°	5113.6	5451.9	5218.0	5199.1	5298.8
25°	4962.8	5279.8	5038.8	5189.6	5273.8
27.5°	4774.1	5054.2	4889.2	5102.9	5208.5
30°	4583.0	4821.6	4736.1	5034.1	5221.6
32.5°	4403.8	4578.3	4610.3	5007.9	5038.8
35°	4234.0	4351.5	4416.8	4818.0	4981.8
37.5°	4047.7	4079.7	4253.0	4738.5	4896.4
40°	3857.7	3837.6	4115.3	4607.9	4826.3
42.5°	3653.6	3646.5	3969.3	4542.6	4651.8
45°	3460.1	3475.5	3761.6	4357.5	4520.1
47.5°	3261.9	3282.0	3564.6	4154.5	4356.3
50°	3031.6	3057.7	3388.9	3974.1	4234.0
52.5°	2782.3	2832.2	3218.0	3803.1	4065.5
55°	2548.5	2590.0	3000.7	3657.1	3948.0
57.5°	2334.8	2359.8	2776.4	3473.2	3692.8
60°	2124.7	2130.7	2565.1	3269.0	3479.1
62.5°	1883.8	1894.4	2347.9	3028.0	3309.4
65°	1613.1	1664.2	2114.0	2797.8	3051.8
67.5°	1360.3	1449.3	1875.5	2586.5	2719.4
70°	1089.7	1240.4	1641.6	2338.4	2432.2
72.5°	841.6	1018.4	1401.8	2060.6	2192.4
75°	610.1	808.3	1178.7	1811.4	1925.3
77.5°	410.7	612.5	969.8	1536.0	1686.7
80°	245.7	447.5	783.4	1280.8	1450.5
82.5°	125.8	300.3	607.7	1074.2	1226.2
85°	54.6	189.9	459.4	891.4	1023.2
87.5°	15.4	108.0	338.3	720.5	832.1
90°	1.2	57.0	241.0	565.0	665.9
92.5°	1.2	27.3	169.7	427.3	504.5
95°	1.2	14.2	105.6	309.8	378.7
97.5°	1.2	8.3	64.1	219.6	277.8
100°	1.2	7.1	38.0	146.0	198.2
102.5°	1.2	8.3	26.1	92.6	129.4
105°	1.2	8.3	21.4	60.5	85.5
107.5°	2.4	8.3	19.0	45.1	59.3
110°	1.2	7.1	20.2	34.4	46.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	5.9	19.0	28.5	34.4
115°	1.2	4.7	16.6	27.3	28.5
117.5°	2.4	3.6	13.1	27.3	28.5
120°	2.4	2.4	10.7	26.1	29.7
122.5°	2.4	2.4	8.3	23.7	28.5
125°	1.2	2.4	7.1	17.8	24.9
127.5°	2.4	2.4	5.9	14.2	19.0
130°	2.4	2.4	4.7	10.7	14.2
132.5°	2.4	2.4	3.6	8.3	10.7
135°	2.4	2.4	2.4	5.9	8.3
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)