

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: P518235

Luminaire Tested: HVL8-8-LD4-2STD-30-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: P518235
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-30-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13300.1 lumens
Efficiency: N/A
Efficacy: 101.8 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

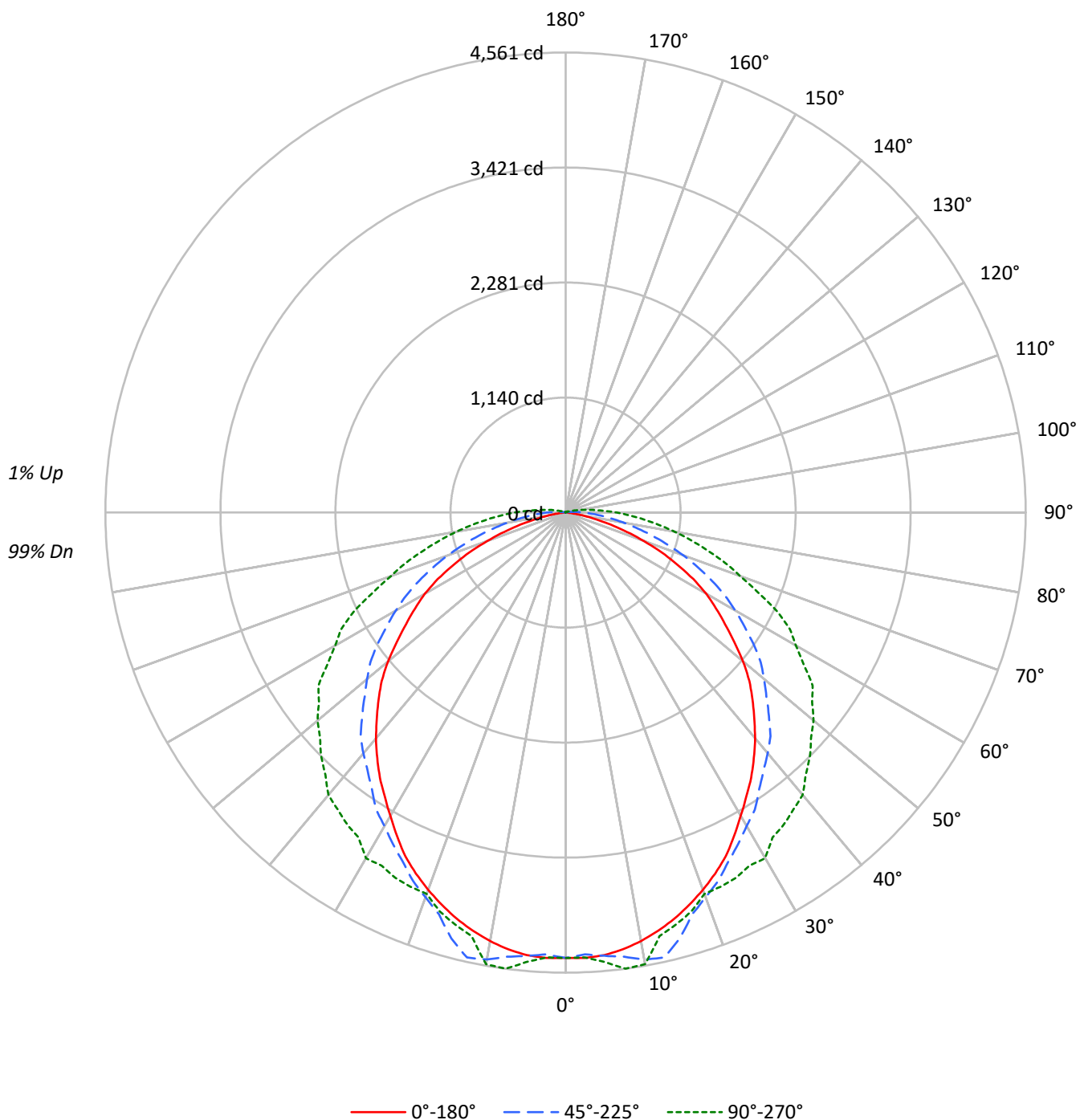
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	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
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	76	72	69
3	89	78	69	63	86	76	68	62	73	66	61	70	64	59	67	62	58
4	81	69	60	53	79	67	59	52	65	57	51	62	56	51	60	54	50
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43
6	69	55	46	39	67	54	46	39	52	45	39	50	44	38	49	43	38
7	64	50	41	35	62	49	41	35	47	40	34	46	39	34	44	38	34
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30
9	55	42	34	28	54	41	33	28	40	33	28	39	32	27	38	32	27
10	52	39	31	25	51	38	30	25	37	30	25	36	29	25	35	29	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8910	8910	8910
5°	8906	8788	8867
10°	8805	8918	8922
15°	8661	8687	8281
20°	8483	8147	7919
25°	8293	7804	7969
30°	7996	7530	8057
35°	7790	7270	7914
40°	7568	7077	7963
45°	7330	6827	7820
50°	7037	6563	7760
55°	6598	6281	7756
60°	6272	5891	7425
65°	5587	5422	7188
70°	4608	4809	6446
75°	3345	4061	5884
80°	1935	3307	5282
85°	774	2527	4653

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 7820 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	424.3	3.2
10°-20°	1208.4	9.1
20°-30°	1797.9	13.5
30°-40°	2161.1	16.2
40°-50°	2274.7	17.1
50°-60°	2110.6	15.9
60°-70°	1668.8	12.5
70°-80°	1019.4	7.7
80°-90°	444.1	3.3
90°-100°	138.3	1.0
100°-110°	31.1	0.2
110°-120°	12.5	0.1
120°-130°	7.0	0.1
130°-140°	1.9	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°	3430.6	25.8
0°-40°	5591.7	42.0
0°-60°	9977.0	75.0
0°-90°	13109.3	98.6
90°-120°	181.8	1.4
90°-150°	190.8	1.4
90°-180°	191.0	1.4
0°-180°	13300.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4415	4415	4415	4415	4415	
5°	4404	4395	4410	4460	4472	417
15°	4168	4328	4371	4226	4229	1174
25°	3760	4000	3818	3932	3996	1726
35°	3208	3297	3346	3650	3774	2005
45°	2622	2633	2850	3302	3425	2021
55°	1931	1962	2274	2771	2991	1735
65°	1222	1261	1602	2120	2312	1210
75°	462	612	893	1372	1459	505
85°	41	144	348	675	775	64
90°	1	43	183	428	504	2
95°	1	11	80	235	287	1
105°	1	6	16	46	65	1
115°	1	4	13	21	22	1
125°	1	2	5	14	19	1
135°	2	2	2	4	6	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°	4414.9	4414.9	4414.9	4414.9	4414.9
2.5°	4420.3	4408.6	4384.3	4407.7	4414.0
5°	4404.1	4395.1	4410.4	4459.8	4472.4
7.5°	4367.2	4401.4	4441.9	4531.8	4560.6
10°	4312.4	4377.1	4498.5	4575.0	4545.3
12.5°	4245.8	4355.5	4518.3	4369.0	4299.8
15°	4168.5	4328.5	4370.8	4226.0	4228.7
17.5°	4077.6	4306.1	4175.7	4172.1	4146.0
20°	3979.6	4230.5	4057.8	4050.6	4022.8
22.5°	3874.4	4130.7	3953.5	3939.1	4014.7
25°	3760.2	4000.3	3817.7	3931.9	3995.8
27.5°	3617.2	3829.4	3704.4	3866.3	3946.3
30°	3472.4	3653.1	3588.4	3814.1	3956.2
32.5°	3336.6	3468.8	3493.0	3794.3	3817.7
35°	3208.0	3297.0	3346.5	3650.4	3774.5
37.5°	3066.8	3091.0	3222.3	3590.2	3709.8
40°	2922.9	2907.6	3118.0	3491.3	3656.7
42.5°	2768.2	2762.8	3007.4	3441.8	3524.5
45°	2621.6	2633.3	2850.0	3301.5	3424.7
47.5°	2471.4	2486.7	2700.7	3147.7	3300.6
50°	2296.9	2316.7	2567.6	3011.0	3208.0
52.5°	2108.1	2145.8	2438.1	2881.5	3080.3
55°	1930.9	1962.4	2273.5	2770.9	2991.2
57.5°	1769.0	1787.9	2103.6	2631.5	2797.9
60°	1609.8	1614.3	1943.5	2476.8	2636.0
62.5°	1427.3	1435.4	1778.9	2294.2	2507.4
65°	1222.2	1260.9	1601.7	2119.8	2312.2
67.5°	1030.6	1098.1	1421.0	1959.7	2060.4
70°	825.6	939.8	1243.8	1771.7	1842.8
72.5°	637.6	771.6	1062.1	1561.3	1661.1
75°	462.3	612.5	893.0	1372.4	1458.7
77.5°	311.2	464.1	734.8	1163.8	1278.0
80°	186.2	339.1	593.6	970.4	1099.0
82.5°	95.3	227.5	460.5	813.9	929.0
85°	41.4	143.9	348.0	675.4	775.2
87.5°	11.7	81.8	256.3	545.9	630.4
90°	0.9	43.2	182.6	428.1	504.5
92.5°	0.9	20.7	128.6	323.8	382.2
95°	0.9	10.8	80.0	234.7	286.9
97.5°	0.9	6.3	48.6	166.4	210.4
100°	0.9	5.4	28.8	110.6	150.2
102.5°	0.9	6.3	19.8	70.1	98.0
105°	0.9	6.3	16.2	45.9	64.8
107.5°	1.8	6.3	14.4	34.2	45.0
110°	0.9	5.4	15.3	26.1	35.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.8	4.5	14.4	21.6	26.1
115°	0.9	3.6	12.6	20.7	21.6
117.5°	1.8	2.7	9.9	20.7	21.6
120°	1.8	1.8	8.1	19.8	22.5
122.5°	1.8	1.8	6.3	18.0	21.6
125°	0.9	1.8	5.4	13.5	18.9
127.5°	1.8	1.8	4.5	10.8	14.4
130°	1.8	1.8	3.6	8.1	10.8
132.5°	1.8	1.8	2.7	6.3	8.1
135°	1.8	1.8	1.8	4.5	6.3
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)