

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: P518247

Luminaire Tested: HVL8-8-LD4-2STD-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: P518247
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-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: 14338.0 lumens
Efficiency: N/A
Efficacy: 109.7 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

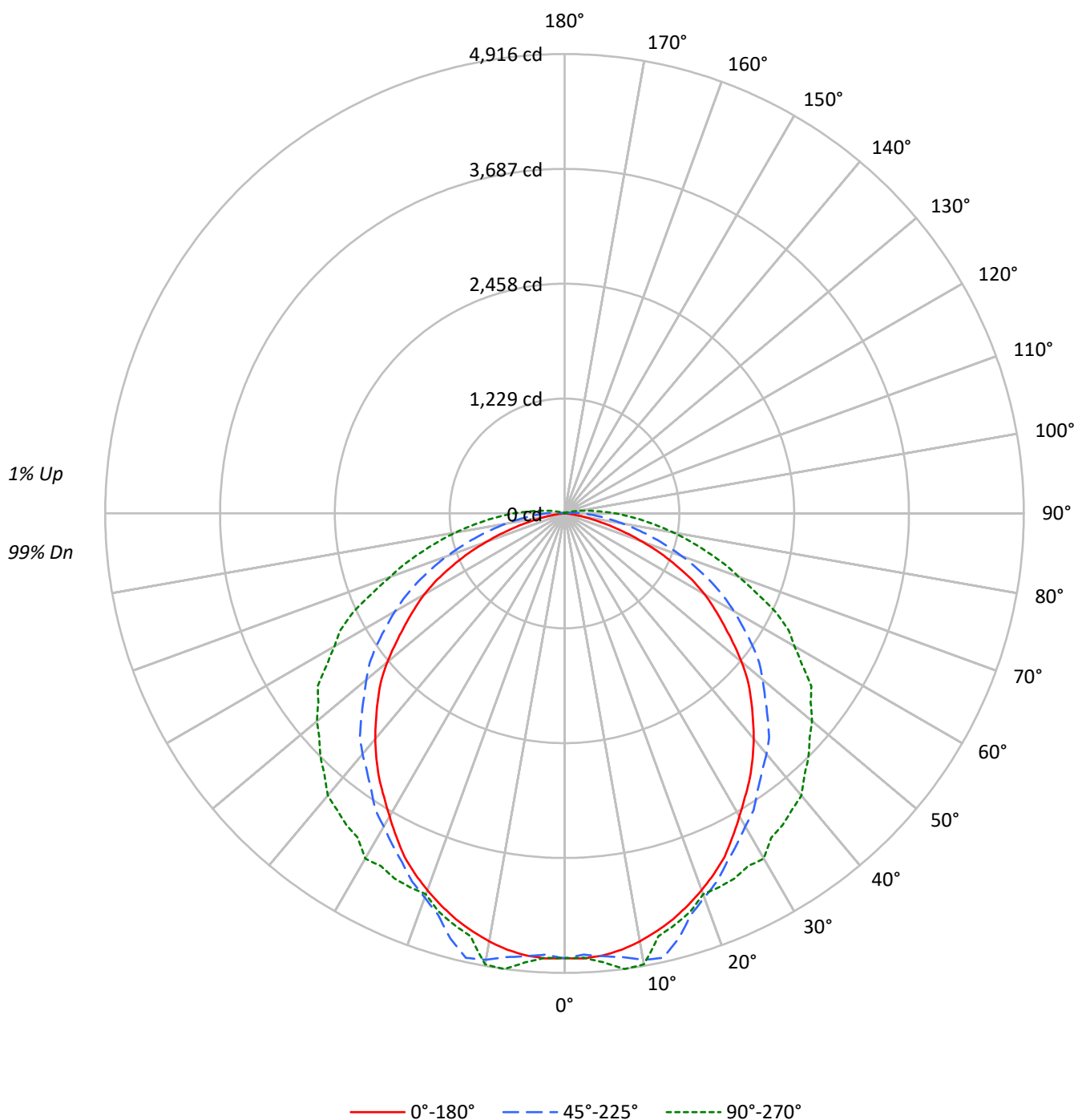
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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					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°	9606	9606	9606
5°	9601	9474	9559
10°	9492	9614	9618
15°	9337	9365	8927
20°	9145	8783	8537
25°	8940	8414	8591
30°	8620	8117	8686
35°	8398	7837	8532
40°	8159	7630	8585
45°	7902	7360	8430
50°	7586	7076	8366
55°	7113	6772	8361
60°	6761	6350	8004
65°	6023	5845	7749
70°	4967	5184	6949
75°	3605	4378	6343
80°	2086	3565	5695
85°	834	2724	5016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8430 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	457.4	3.2
10°-20°	1302.7	9.1
20°-30°	1938.2	13.5
30°-40°	2329.7	16.2
40°-50°	2452.2	17.1
50°-60°	2275.4	15.9
60°-70°	1799.1	12.5
70°-80°	1098.9	7.7
80°-90°	478.8	3.3
90°-100°	149.1	1.0
100°-110°	33.5	0.2
110°-120°	13.5	0.1
120°-130°	7.6	0.1
130°-140°	2.0	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°	3698.3	25.8
0°-40°	6028.1	42.0
0°-60°	10755.6	75.0
0°-90°	14132.4	98.6
90°-120°	196.0	1.4
90°-150°	205.6	1.4
90°-180°	206.0	1.4
0°-180°	14338.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4759	4759	4759	4759	4759	
5°	4748	4738	4755	4808	4822	450
15°	4494	4666	4712	4556	4559	1266
25°	4054	4312	4116	4239	4308	1861
35°	3458	3554	3608	3935	4069	2161
45°	2826	2839	3072	3559	3692	2179
55°	2082	2116	2451	2987	3225	1870
65°	1318	1359	1727	2285	2493	1305
75°	498	660	963	1480	1573	544
85°	45	155	375	728	836	69
90°	1	46	197	462	544	2
95°	1	12	86	253	309	1
105°	1	7	18	49	70	1
115°	1	4	14	22	23	2
125°	1	2	6	14	20	2
135°	2	2	2	5	7	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°	4759.4	4759.4	4759.4	4759.4	4759.4
2.5°	4765.3	4752.6	4726.5	4751.7	4758.5
5°	4747.8	4738.1	4754.6	4807.9	4821.5
7.5°	4708.1	4744.9	4788.5	4885.5	4916.5
10°	4648.9	4718.7	4849.6	4932.0	4900.0
12.5°	4577.2	4695.4	4870.9	4710.0	4635.3
15°	4493.8	4666.4	4711.9	4555.8	4558.7
17.5°	4395.9	4642.1	4501.5	4497.7	4469.5
20°	4290.2	4560.7	4374.5	4366.8	4336.7
22.5°	4176.7	4453.1	4262.1	4246.6	4328.0
25°	4053.6	4312.5	4115.7	4238.8	4307.6
27.5°	3899.5	4128.3	3993.5	4168.0	4254.3
30°	3743.4	3938.2	3868.4	4111.8	4265.0
32.5°	3597.0	3739.5	3765.7	4090.5	4115.7
35°	3458.3	3554.3	3607.6	3935.3	4069.1
37.5°	3306.1	3332.3	3473.8	3870.4	3999.3
40°	3151.0	3134.5	3361.4	3763.7	3942.1
42.5°	2984.2	2978.4	3242.1	3710.4	3799.6
45°	2826.2	2838.8	3072.4	3559.2	3692.0
47.5°	2664.3	2680.8	2911.5	3393.4	3558.2
50°	2476.2	2497.5	2768.0	3246.0	3458.3
52.5°	2272.6	2313.3	2628.4	3106.4	3320.6
55°	2081.6	2115.5	2451.0	2987.1	3224.7
57.5°	1907.1	1927.4	2267.7	2836.9	3016.2
60°	1735.5	1740.3	2095.2	2670.1	2841.7
62.5°	1538.6	1547.4	1917.7	2473.3	2703.1
65°	1317.6	1359.3	1726.7	2285.2	2492.7
67.5°	1111.1	1183.8	1531.9	2112.6	2221.2
70°	890.0	1013.2	1340.9	1910.0	1986.6
72.5°	687.4	831.9	1145.0	1683.1	1790.7
75°	498.3	660.3	962.7	1479.5	1572.6
77.5°	335.5	500.3	792.1	1254.6	1377.7
80°	200.7	365.5	639.9	1046.1	1184.8
82.5°	102.8	245.3	496.4	877.4	1001.5
85°	44.6	155.1	375.2	728.1	835.7
87.5°	12.6	88.2	276.3	588.5	679.6
90°	1.0	46.5	196.8	461.5	543.9
92.5°	1.0	22.3	138.6	349.0	412.1
95°	1.0	11.6	86.3	253.0	309.3
97.5°	1.0	6.8	52.4	179.4	226.9
100°	1.0	5.8	31.0	119.3	161.9
102.5°	1.0	6.8	21.3	75.6	105.7
105°	1.0	6.8	17.5	49.4	69.8
107.5°	1.9	6.8	15.5	36.8	48.5
110°	1.0	5.8	16.5	28.1	37.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.9	4.8	15.5	23.3	28.1
115°	1.0	3.9	13.6	22.3	23.3
117.5°	1.9	2.9	10.7	22.3	23.3
120°	1.9	1.9	8.7	21.3	24.2
122.5°	1.9	1.9	6.8	19.4	23.3
125°	1.0	1.9	5.8	14.5	20.4
127.5°	1.9	1.9	4.8	11.6	15.5
130°	1.9	1.9	3.9	8.7	11.6
132.5°	1.9	1.9	2.9	6.8	8.7
135°	1.9	1.9	1.9	4.8	6.8
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)