

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: P518205

Luminaire Tested: HVL8-8-LD4-2HI-30-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: P518205
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-30-UNV-O-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: 13431.0 lumens
Efficiency: N/A
Efficacy: 78.0 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

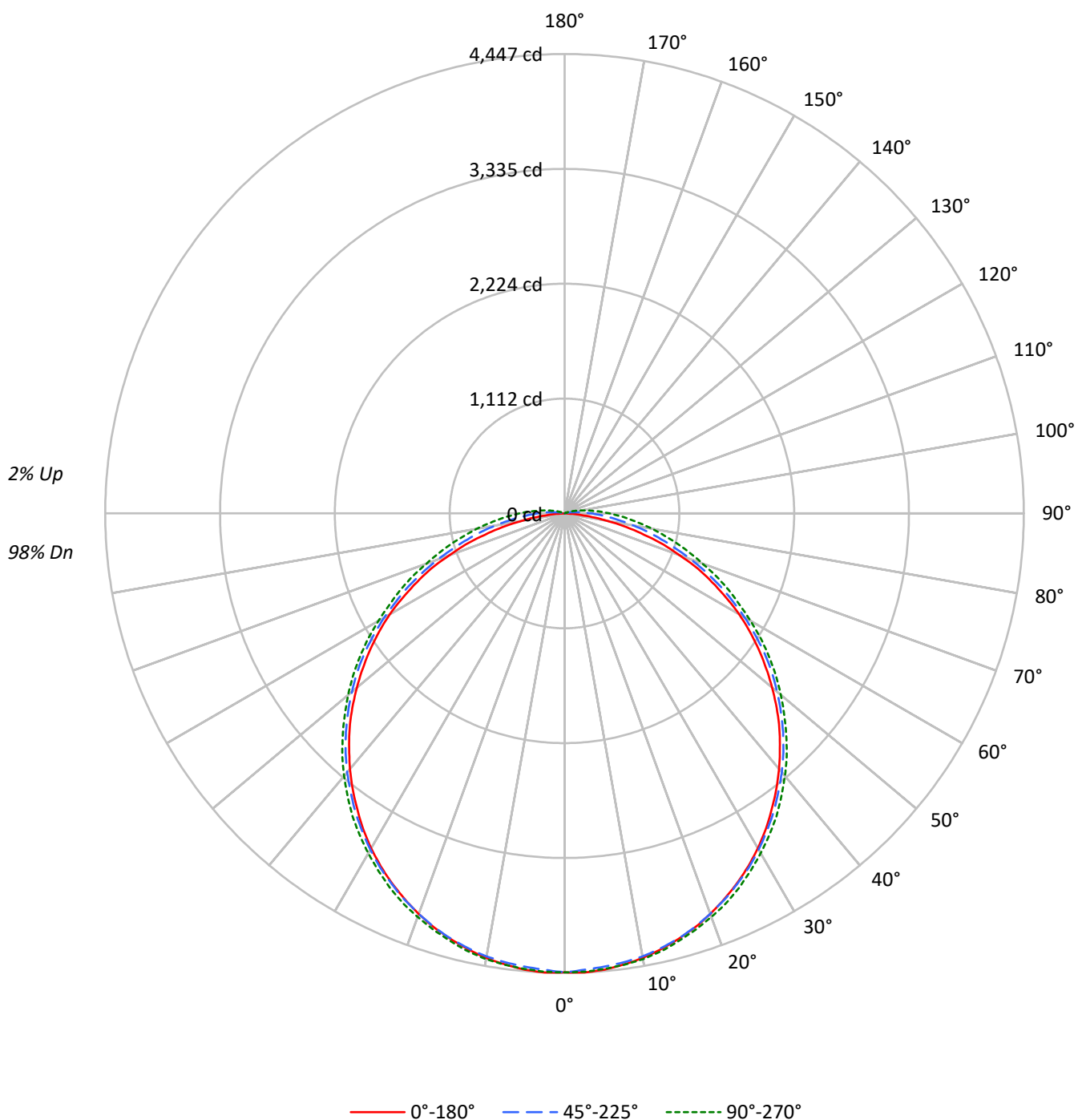
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	8965	8965	8965
5°	8964	8776	8774
10°	8921	8630	8598
15°	8860	8466	8387
20°	8795	8282	8182
25°	8714	8092	7974
30°	8618	7889	7737
35°	8493	7664	7502
40°	8365	7428	7229
45°	8227	7169	6934
50°	8043	6869	6617
55°	7847	6539	6266
60°	7613	6107	5858
65°	7214	5622	5452
70°	6628	5049	4982
75°	5781	4419	4554
80°	4484	3804	4162
85°	2585	3186	3790

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8227 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	420.4	3.1
10°-20°	1205.8	9.0
20°-30°	1829.6	13.6
30°-40°	2212.3	16.5
40°-50°	2308.4	17.2
50°-60°	2110.5	15.7
60°-70°	1645.3	12.2
70°-80°	1029.2	7.7
80°-90°	467.5	3.5
90°-100°	156.7	1.2
100°-110°	39.3	0.3
110°-120°	6.2	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°	3455.8	25.7
0°-40°	5668.0	42.2
0°-60°	10086.9	75.1
0°-90°	13228.8	98.5
90°-120°	202.2	1.5
90°-150°	202.2	1.5
90°-180°	202.0	1.5
0°-180°	13431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4442	4442	4442	4442	4442	
5°	4433	4424	4404	4425	4425	421
15°	4264	4272	4260	4284	4283	1204
25°	3951	3954	3958	3992	3998	1821
35°	3498	3513	3528	3564	3578	2189
45°	2943	2969	2993	3022	3037	2267
55°	2296	2324	2367	2401	2417	2052
65°	1578	1605	1661	1727	1754	1561
75°	799	848	972	1088	1129	852
85°	138	256	439	580	632	175
90°	1	95	259	388	436	5
95°	1	25	134	243	281	1
105°	2	3	22	65	87	2
115°	3	3	4	12	17	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°	4442.2	4442.2	4442.2	4442.2	4442.2
2.5°	4447.4	4441.1	4421.2	4441.1	4440.1
5°	4432.7	4424.4	4404.5	4425.4	4425.4
7.5°	4403.4	4400.3	4382.5	4406.6	4406.6
10°	4368.9	4367.8	4353.2	4379.3	4380.4
12.5°	4320.7	4324.9	4311.3	4336.4	4339.5
15°	4264.1	4271.5	4260.0	4284.0	4283.0
17.5°	4202.4	4206.5	4198.2	4225.4	4224.3
20°	4125.9	4131.1	4124.9	4153.1	4156.3
22.5°	4041.1	4048.4	4047.4	4076.7	4085.1
25°	3951.0	3954.2	3958.4	3991.9	3998.2
27.5°	3851.6	3856.8	3864.1	3894.5	3900.8
30°	3742.6	3751.0	3759.4	3790.8	3799.2
32.5°	3627.5	3635.8	3646.3	3687.1	3691.3
35°	3497.6	3513.3	3528.0	3563.6	3578.2
37.5°	3367.8	3387.6	3401.3	3439.0	3450.5
40°	3230.6	3250.5	3272.5	3312.2	3319.6
42.5°	3087.1	3110.1	3136.3	3171.9	3184.5
45°	2942.6	2968.8	2992.9	3022.2	3036.8
47.5°	2786.6	2812.7	2842.1	2875.6	2885.0
50°	2625.3	2655.7	2687.1	2718.5	2735.3
52.5°	2459.8	2496.5	2532.1	2565.6	2581.3
55°	2296.5	2323.7	2366.6	2401.2	2416.9
57.5°	2126.8	2149.9	2188.6	2245.2	2253.5
60°	1954.0	1975.0	2014.8	2060.9	2079.7
62.5°	1763.5	1791.7	1833.6	1892.3	1909.0
65°	1578.1	1605.3	1660.8	1726.8	1754.0
67.5°	1399.0	1408.5	1479.7	1548.8	1592.8
70°	1187.5	1223.1	1305.8	1390.7	1424.2
72.5°	1005.3	1040.9	1132.0	1231.5	1273.4
75°	799.0	848.2	971.8	1088.0	1128.9
77.5°	617.8	672.3	825.2	942.5	989.6
80°	431.4	516.3	682.8	814.7	866.0
82.5°	271.2	375.9	554.0	692.2	737.2
85°	138.2	255.5	438.8	580.1	631.5
87.5°	36.7	165.5	341.4	476.5	528.8
90°	1.0	95.3	258.7	388.5	435.6
92.5°	1.0	53.4	192.7	308.9	357.1
95°	1.0	25.1	134.0	242.9	280.6
97.5°	1.0	10.5	92.2	183.3	221.0
100°	1.0	5.2	58.6	133.0	165.5
102.5°	2.1	3.1	36.7	95.3	121.5
105°	2.1	3.1	22.0	64.9	86.9
107.5°	2.1	3.1	12.6	44.0	59.7
110°	3.1	3.1	7.3	27.2	39.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.1	3.1	4.2	17.8	26.2
115°	3.1	3.1	4.2	11.5	16.8
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)