

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: P518273

Luminaire Tested: HVL8-8-LD4-3LO-35-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: P518273
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-35-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15474.0 lumens
Efficiency: N/A
Efficacy: 114.8 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

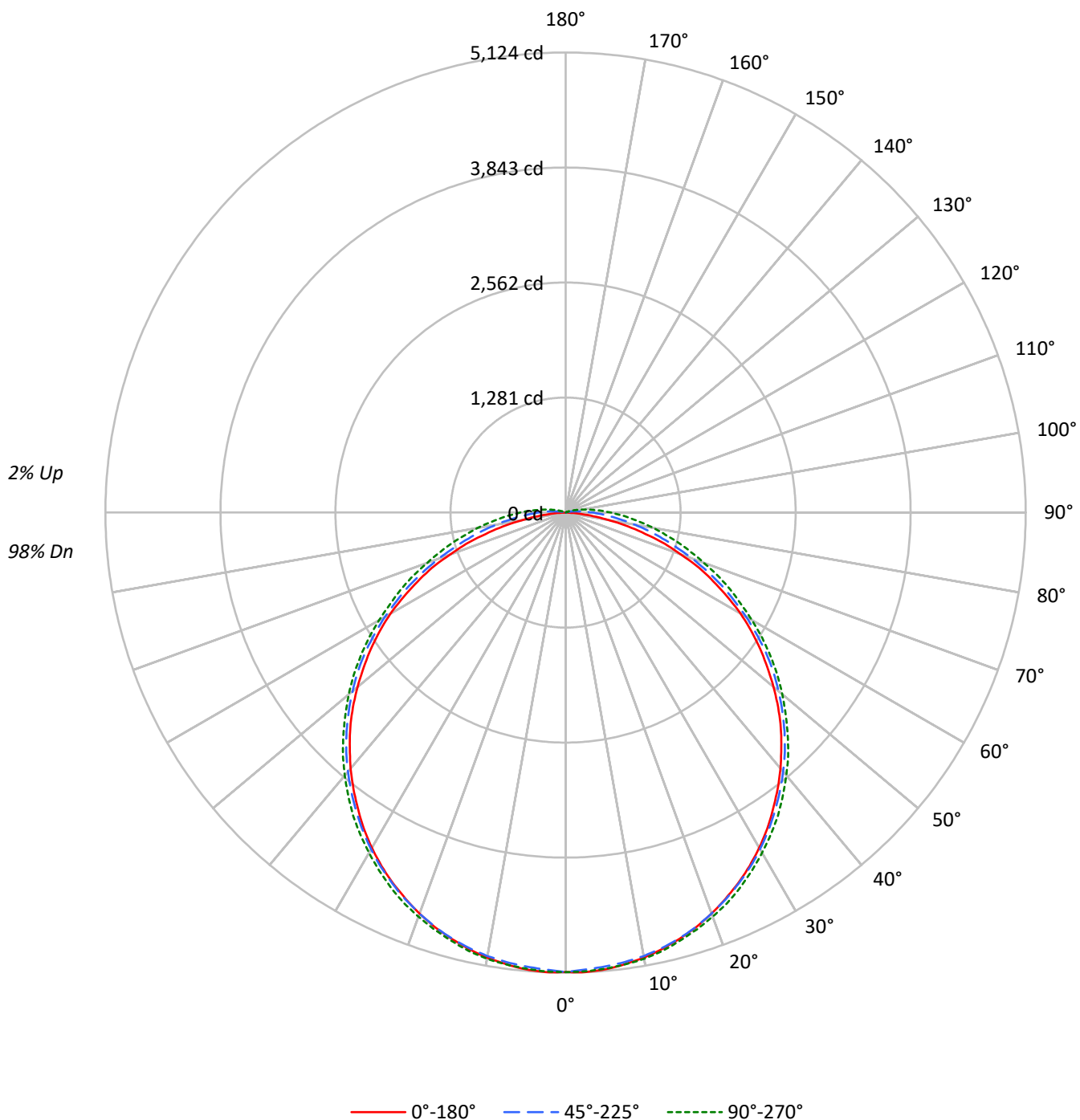
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	10329	10329	10329
5°	10328	10111	10108
10°	10278	9942	9906
15°	10208	9754	9663
20°	10133	9542	9427
25°	10039	9323	9187
30°	9929	9089	8914
35°	9785	8830	8644
40°	9638	8558	8329
45°	9479	8260	7989
50°	9267	7914	7623
55°	9041	7533	7220
60°	8771	7036	6749
65°	8311	6477	6282
70°	7636	5817	5739
75°	6660	5091	5246
80°	5167	4382	4796
85°	2979	3670	4367

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9479 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	484.3	3.1
10°-20°	1389.2	9.0
20°-30°	2107.9	13.6
30°-40°	2548.8	16.5
40°-50°	2659.5	17.2
50°-60°	2431.6	15.7
60°-70°	1895.5	12.2
70°-80°	1185.7	7.7
80°-90°	538.6	3.5
90°-100°	180.5	1.2
100°-110°	45.3	0.3
110°-120°	7.1	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°	3981.4	25.7
0°-40°	6530.2	42.2
0°-60°	11621.2	75.1
0°-90°	15241.0	98.5
90°-120°	232.9	1.5
90°-150°	232.9	1.5
90°-180°	233.0	1.5
0°-180°	15474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5118	5118	5118	5118	5118	
5°	5107	5097	5074	5099	5099	485
15°	4913	4921	4908	4936	4934	1387
25°	4552	4556	4560	4599	4606	2098
35°	4030	4048	4065	4106	4122	2522
45°	3390	3420	3448	3482	3499	2612
55°	2646	2677	2727	2766	2784	2364
65°	1818	1850	1914	1990	2021	1799
75°	920	977	1120	1254	1301	981
85°	159	294	506	668	728	202
90°	1	110	298	448	502	6
95°	1	29	154	280	323	1
105°	2	4	25	75	100	3
115°	4	4	5	13	19	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°	5117.9	5117.9	5117.9	5117.9	5117.9
2.5°	5123.9	5116.7	5093.7	5116.7	5115.5
5°	5107.0	5097.4	5074.4	5098.6	5098.6
7.5°	5073.2	5069.6	5049.1	5076.8	5076.8
10°	5033.4	5032.2	5015.3	5045.5	5046.7
12.5°	4977.9	4982.7	4967.1	4996.0	4999.6
15°	4912.8	4921.2	4907.9	4935.7	4934.5
17.5°	4841.6	4846.4	4836.8	4868.1	4866.9
20°	4753.5	4759.5	4752.3	4784.9	4788.5
22.5°	4655.8	4664.2	4663.0	4696.8	4706.5
25°	4552.0	4555.6	4560.5	4599.1	4606.3
27.5°	4437.4	4443.4	4451.9	4486.9	4494.1
30°	4311.9	4321.6	4331.2	4367.4	4377.1
32.5°	4179.2	4188.9	4200.9	4248.0	4252.8
35°	4029.6	4047.7	4064.6	4105.6	4122.5
37.5°	3880.0	3902.9	3918.6	3962.1	3975.3
40°	3722.0	3744.9	3770.2	3816.1	3824.5
42.5°	3556.7	3583.2	3613.4	3654.4	3668.9
45°	3390.2	3420.4	3448.1	3481.9	3498.8
47.5°	3210.4	3240.6	3274.4	3313.0	3323.8
50°	3024.6	3059.6	3095.8	3132.0	3151.3
52.5°	2834.0	2876.2	2917.3	2955.9	2974.0
55°	2645.8	2677.2	2726.6	2766.4	2784.5
57.5°	2450.3	2476.9	2521.5	2586.7	2596.3
60°	2251.3	2275.4	2321.3	2374.3	2396.1
62.5°	2031.7	2064.3	2112.5	2180.1	2199.4
65°	1818.2	1849.5	1913.5	1989.5	2020.8
67.5°	1611.8	1622.7	1704.7	1784.4	1835.0
70°	1368.1	1409.2	1504.5	1602.2	1640.8
72.5°	1158.2	1199.2	1304.2	1418.8	1467.1
75°	920.5	977.2	1119.6	1253.5	1300.6
77.5°	711.8	774.6	950.7	1085.8	1140.1
80°	497.1	594.8	786.6	938.6	997.8
82.5°	312.5	433.1	638.2	797.5	849.4
85°	159.3	294.4	505.5	668.4	727.5
87.5°	42.2	190.6	393.3	548.9	609.3
90°	1.2	109.8	298.0	447.6	501.9
92.5°	1.2	61.5	222.0	355.9	411.4
95°	1.2	29.0	154.4	279.9	323.3
97.5°	1.2	12.1	106.2	211.1	254.6
100°	1.2	6.0	67.6	153.2	190.6
102.5°	2.4	3.6	42.2	109.8	140.0
105°	2.4	3.6	25.3	74.8	100.1
107.5°	2.4	3.6	14.5	50.7	68.8
110°	3.6	3.6	8.4	31.4	45.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.6	3.6	4.8	20.5	30.2
115°	3.6	3.6	4.8	13.3	19.3
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)