

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: P517651

Luminaire Tested: HVL12-8-LD4-2LO-40-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: P517651
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2LO-40-UNV-C-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11427.0 lumens
Efficiency: N/A
Efficacy: 120.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

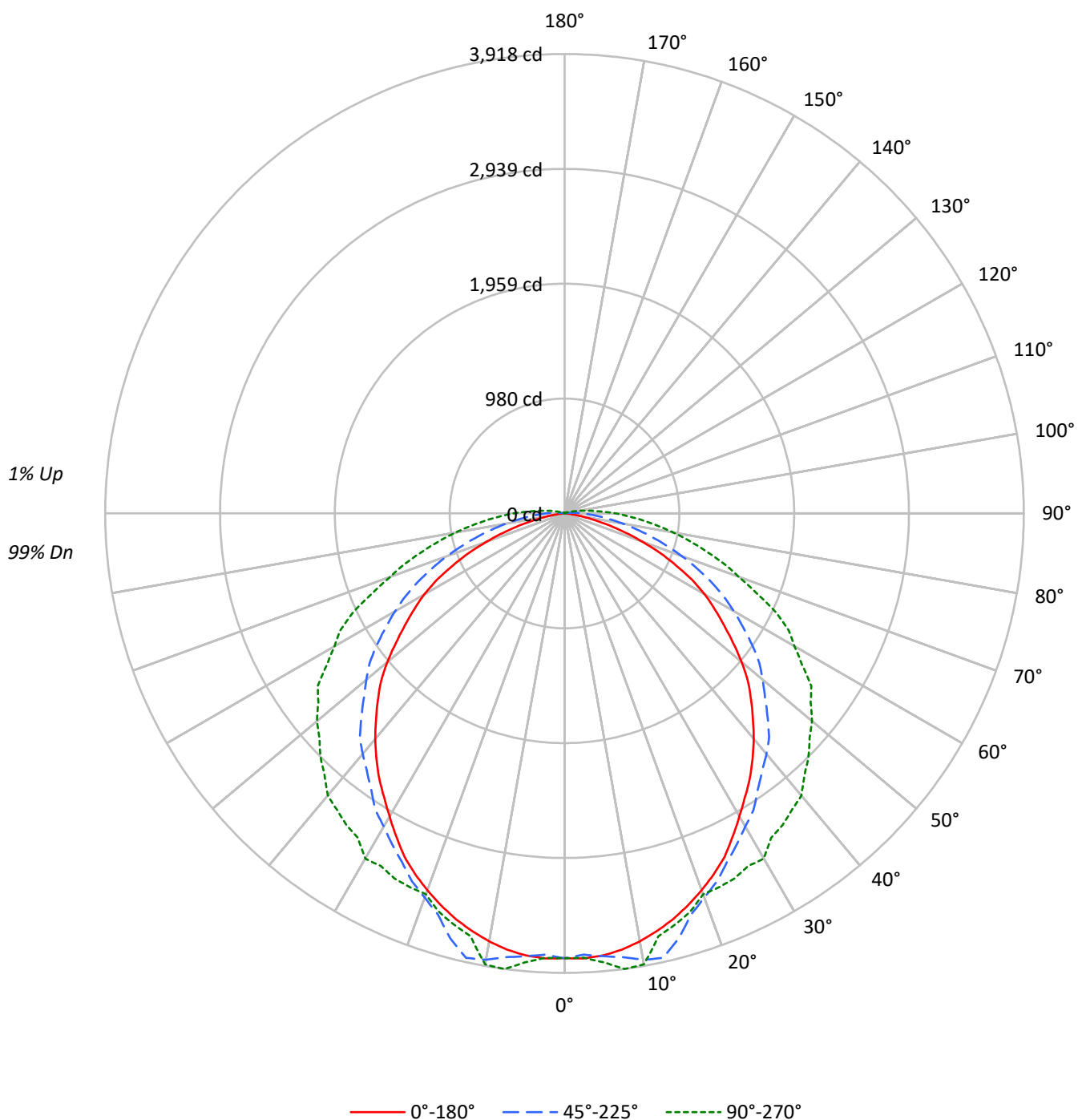
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5104	5104	5104
5°	5101	5059	5115
10°	5044	5160	5183
15°	4961	5051	4844
20°	4859	4762	4666
25°	4750	4586	4729
30°	4580	4449	4817
35°	4462	4321	4770
40°	4335	4234	4841
45°	4198	4114	4799
50°	4031	3987	4813
55°	3779	3853	4869
60°	3592	3654	4729
65°	3200	3411	4659
70°	2639	3081	4272
75°	1916	2668	4017
80°	1108	2255	3761
85°	443	1835	3539

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 4869 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.6	3.2
10°-20°	1038.2	9.1
20°-30°	1544.7	13.5
30°-40°	1856.7	16.2
40°-50°	1954.3	17.1
50°-60°	1813.4	15.9
60°-70°	1433.8	12.5
70°-80°	875.8	7.7
80°-90°	381.6	3.3
90°-100°	118.8	1.0
100°-110°	26.7	0.2
110°-120°	10.7	0.1
120°-130°	6.0	0.1
130°-140°	1.6	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°	2947.5	25.8
0°-40°	4804.2	42.0
0°-60°	8571.9	75.0
0°-90°	11263.2	98.6
90°-120°	156.2	1.4
90°-150°	163.9	1.4
90°-180°	164.0	1.4
0°-180°	11427.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3793	3793	3793	3793	3793	
5°	3784	3776	3789	3832	3843	359
15°	3581	3719	3755	3631	3633	1009
25°	3231	3437	3280	3378	3433	1483
35°	2756	2833	2875	3136	3243	1723
45°	2252	2262	2449	2837	2942	1736
55°	1659	1686	1953	2381	2570	1491
65°	1050	1083	1376	1821	1987	1040
75°	397	526	767	1179	1253	433
85°	36	124	299	580	666	55
90°	1	37	157	368	434	2
95°	1	9	69	202	246	1
105°	1	5	14	39	56	1
115°	1	3	11	18	18	1
125°	1	2	5	12	16	1
135°	2	2	2	4	5	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°	3793.1	3793.1	3793.1	3793.1	3793.1
2.5°	3797.8	3787.7	3766.9	3787.0	3792.4
5°	3783.9	3776.1	3789.3	3831.8	3842.6
7.5°	3752.2	3781.6	3816.3	3893.6	3918.3
10°	3705.1	3760.7	3865.0	3930.7	3905.2
12.5°	3647.9	3742.1	3882.0	3753.7	3694.2
15°	3581.4	3719.0	3755.3	3630.9	3633.2
17.5°	3503.4	3699.6	3587.6	3584.5	3562.1
20°	3419.2	3634.7	3486.4	3480.2	3456.2
22.5°	3328.8	3549.0	3396.8	3384.4	3449.3
25°	3230.6	3436.9	3280.1	3378.2	3433.1
27.5°	3107.8	3290.1	3182.7	3321.8	3390.6
30°	2983.4	3138.7	3083.0	3277.0	3399.1
32.5°	2866.7	2980.3	3001.1	3260.0	3280.1
35°	2756.2	2832.7	2875.2	3136.4	3243.0
37.5°	2634.9	2655.7	2768.6	3084.6	3187.4
40°	2511.2	2498.1	2678.9	2999.6	3141.8
42.5°	2378.3	2373.7	2583.9	2957.1	3028.2
45°	2252.4	2262.4	2448.7	2836.6	2942.4
47.5°	2123.4	2136.5	2320.4	2704.4	2835.8
50°	1973.5	1990.5	2206.0	2587.0	2756.2
52.5°	1811.2	1843.6	2094.8	2475.7	2646.5
55°	1659.0	1686.0	1953.4	2380.7	2570.0
57.5°	1519.9	1536.1	1807.3	2260.9	2403.8
60°	1383.1	1387.0	1669.8	2128.0	2264.8
62.5°	1226.3	1233.2	1528.4	1971.1	2154.3
65°	1050.1	1083.3	1376.2	1821.2	1986.6
67.5°	885.5	943.5	1220.9	1683.7	1770.2
70°	709.3	807.5	1068.6	1522.2	1583.2
72.5°	547.8	663.0	912.5	1341.4	1427.2
75°	397.2	526.2	767.3	1179.1	1253.3
77.5°	267.4	398.7	631.3	999.9	1098.0
80°	159.9	291.3	510.0	833.7	944.2
82.5°	81.9	195.5	395.6	699.3	798.2
85°	35.5	123.6	299.0	580.3	666.1
87.5°	10.0	70.3	220.2	469.0	541.7
90°	0.8	37.1	156.9	367.8	433.5
92.5°	0.8	17.8	110.5	278.2	328.4
95°	0.8	9.3	68.8	201.7	246.5
97.5°	0.8	5.4	41.7	142.9	180.8
100°	0.8	4.6	24.7	95.0	129.0
102.5°	0.8	5.4	17.0	60.3	84.2
105°	0.8	5.4	13.9	39.4	55.6
107.5°	1.5	5.4	12.4	29.4	38.6
110°	0.8	4.6	13.1	22.4	30.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	3.9	12.4	18.5	22.4
115°	0.8	3.1	10.8	17.8	18.5
117.5°	1.5	2.3	8.5	17.8	18.5
120°	1.5	1.5	7.0	17.0	19.3
122.5°	1.5	1.5	5.4	15.5	18.5
125°	0.8	1.5	4.6	11.6	16.2
127.5°	1.5	1.5	3.9	9.3	12.4
130°	1.5	1.5	3.1	7.0	9.3
132.5°	1.5	1.5	2.3	5.4	7.0
135°	1.5	1.5	1.5	3.9	5.4
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)