

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: P518219

Luminaire Tested: HVL8-8-LD4-2LO-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: P518219
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2LO-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: 10325.0 lumens
Efficiency: N/A
Efficacy: 112.0 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

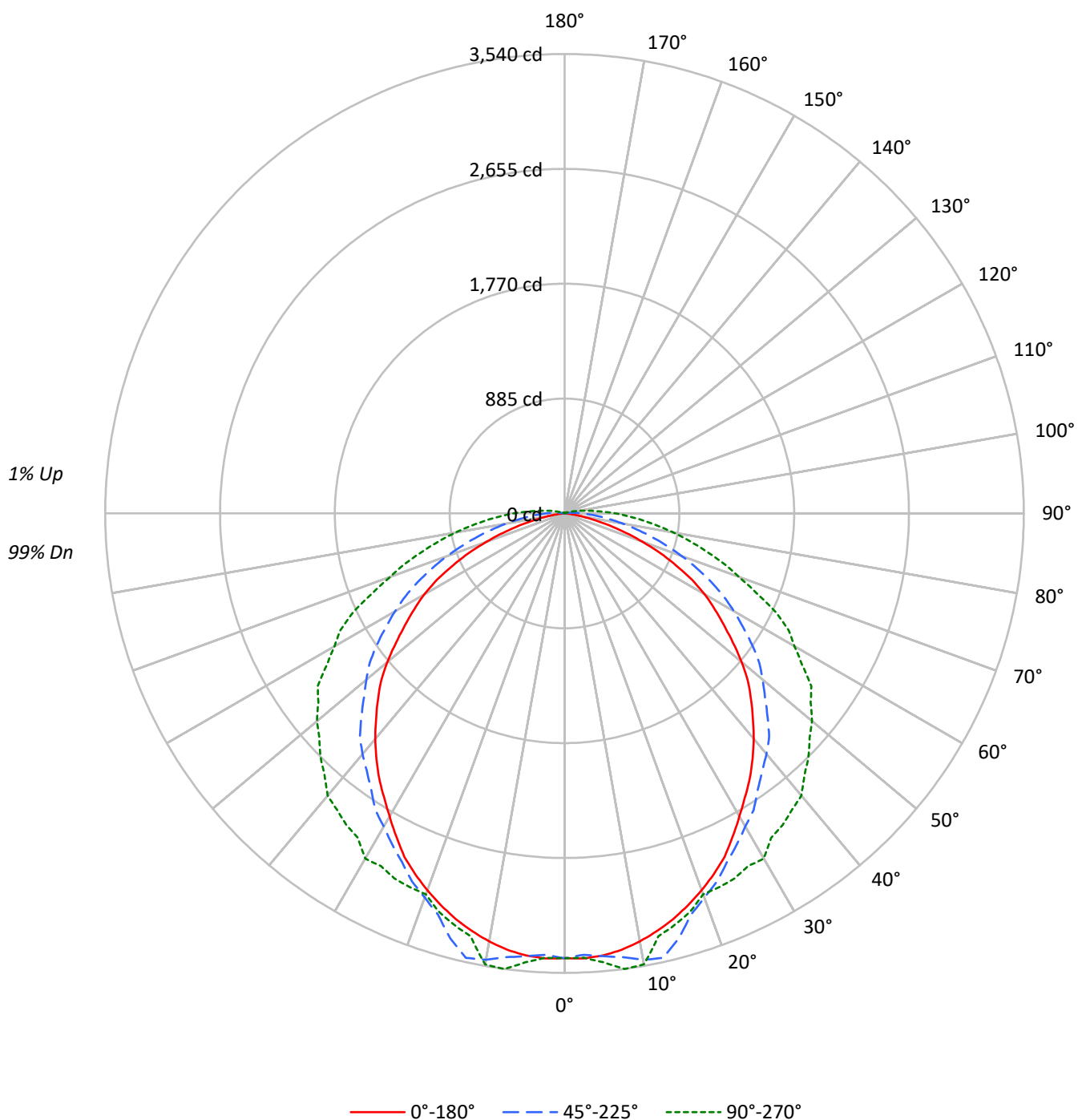
Input Watts (W): 92.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6917	6917	6917
5°	6914	6822	6883
10°	6836	6923	6926
15°	6724	6744	6428
20°	6585	6325	6148
25°	6438	6059	6186
30°	6208	5846	6255
35°	6048	5644	6144
40°	5875	5494	6182
45°	5690	5300	6070
50°	5463	5095	6024
55°	5122	4876	6021
60°	4869	4573	5764
65°	4337	4209	5580
70°	3577	3733	5004
75°	2597	3153	4568
80°	1502	2567	4101
85°	600	1962	3612

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6070 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.4	3.2
10°-20°	938.1	9.1
20°-30°	1395.7	13.5
30°-40°	1677.7	16.2
40°-50°	1765.9	17.1
50°-60°	1638.5	15.9
60°-70°	1295.5	12.5
70°-80°	791.3	7.7
80°-90°	344.8	3.3
90°-100°	107.3	1.0
100°-110°	24.1	0.2
110°-120°	9.7	0.1
120°-130°	5.5	0.1
130°-140°	1.5	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°	2663.2	25.8
0°-40°	4340.9	42.0
0°-60°	7745.3	75.0
0°-90°	10176.9	98.6
90°-120°	141.2	1.4
90°-150°	148.1	1.4
90°-180°	148.0	1.4
0°-180°	10325.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3427	3427	3427	3427	3427	
5°	3419	3412	3424	3462	3472	324
15°	3236	3360	3393	3281	3283	912
25°	2919	3106	2964	3052	3102	1340
35°	2490	2560	2598	2834	2930	1556
45°	2035	2044	2212	2563	2659	1569
55°	1499	1523	1765	2151	2322	1347
65°	949	979	1243	1646	1795	940
75°	359	476	693	1065	1132	392
85°	32	112	270	524	602	50
90°	1	34	142	332	392	2
95°	1	8	62	182	223	1
105°	1	5	13	36	50	1
115°	1	3	10	16	17	1
125°	1	1	4	10	15	1
135°	1	1	1	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°	3427.3	3427.3	3427.3	3427.3	3427.3
2.5°	3431.5	3422.5	3403.6	3421.8	3426.6
5°	3419.0	3412.0	3423.8	3462.2	3472.0
7.5°	3390.3	3416.9	3448.3	3518.1	3540.4
10°	3347.7	3398.0	3492.3	3551.6	3528.6
12.5°	3296.1	3381.3	3507.6	3391.7	3338.0
15°	3236.0	3360.3	3393.1	3280.7	3282.8
17.5°	3165.5	3342.9	3241.6	3238.8	3218.6
20°	3089.4	3284.2	3150.2	3144.6	3122.9
22.5°	3007.7	3206.7	3069.2	3058.0	3116.7
25°	2919.1	3105.5	2963.8	3052.4	3102.0
27.5°	2808.1	2972.8	2875.8	3001.5	3063.6
30°	2695.7	2836.0	2785.7	2961.0	3071.3
32.5°	2590.2	2692.9	2711.7	2945.6	2963.8
35°	2490.4	2559.5	2597.9	2833.9	2930.2
37.5°	2380.8	2399.6	2501.6	2787.1	2880.0
40°	2269.1	2257.2	2420.6	2710.3	2838.8
42.5°	2149.0	2144.8	2334.7	2671.9	2736.1
45°	2035.2	2044.3	2212.5	2563.0	2658.6
47.5°	1918.6	1930.5	2096.6	2443.6	2562.3
50°	1783.1	1798.5	1993.3	2337.5	2490.4
52.5°	1636.5	1665.8	1892.8	2237.0	2391.2
55°	1499.0	1523.4	1765.0	2151.1	2322.1
57.5°	1373.3	1388.0	1633.0	2042.9	2172.0
60°	1249.7	1253.2	1508.8	1922.8	2046.3
62.5°	1108.0	1114.3	1381.0	1781.0	1946.5
65°	948.8	978.8	1243.4	1645.6	1795.0
67.5°	800.1	852.5	1103.1	1521.3	1599.5
70°	640.9	729.6	965.6	1375.4	1430.6
72.5°	495.0	599.0	824.5	1212.0	1289.5
75°	358.9	475.5	693.3	1065.4	1132.4
77.5°	241.6	360.3	570.4	903.4	992.1
80°	144.5	263.2	460.8	753.3	853.2
82.5°	74.0	176.6	357.5	631.8	721.2
85°	32.1	111.7	270.2	524.3	601.8
87.5°	9.1	63.5	199.0	423.8	489.4
90°	0.7	33.5	141.7	332.3	391.7
92.5°	0.7	16.1	99.8	251.3	296.7
95°	0.7	8.4	62.1	182.2	222.7
97.5°	0.7	4.9	37.7	129.2	163.4
100°	0.7	4.2	22.3	85.9	116.6
102.5°	0.7	4.9	15.4	54.5	76.1
105°	0.7	4.9	12.6	35.6	50.3
107.5°	1.4	4.9	11.2	26.5	34.9
110°	0.7	4.2	11.9	20.2	27.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.4	3.5	11.2	16.8	20.2
115°	0.7	2.8	9.8	16.1	16.8
117.5°	1.4	2.1	7.7	16.1	16.8
120°	1.4	1.4	6.3	15.4	17.5
122.5°	1.4	1.4	4.9	14.0	16.8
125°	0.7	1.4	4.2	10.5	14.7
127.5°	1.4	1.4	3.5	8.4	11.2
130°	1.4	1.4	2.8	6.3	8.4
132.5°	1.4	1.4	2.1	4.9	6.3
135°	1.4	1.4	1.4	3.5	4.9
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)