

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: P518241

Luminaire Tested: HVL8-8-LD4-2STD-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: P518241
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-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: 10577.0 lumens
Efficiency: N/A
Efficacy: 80.9 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

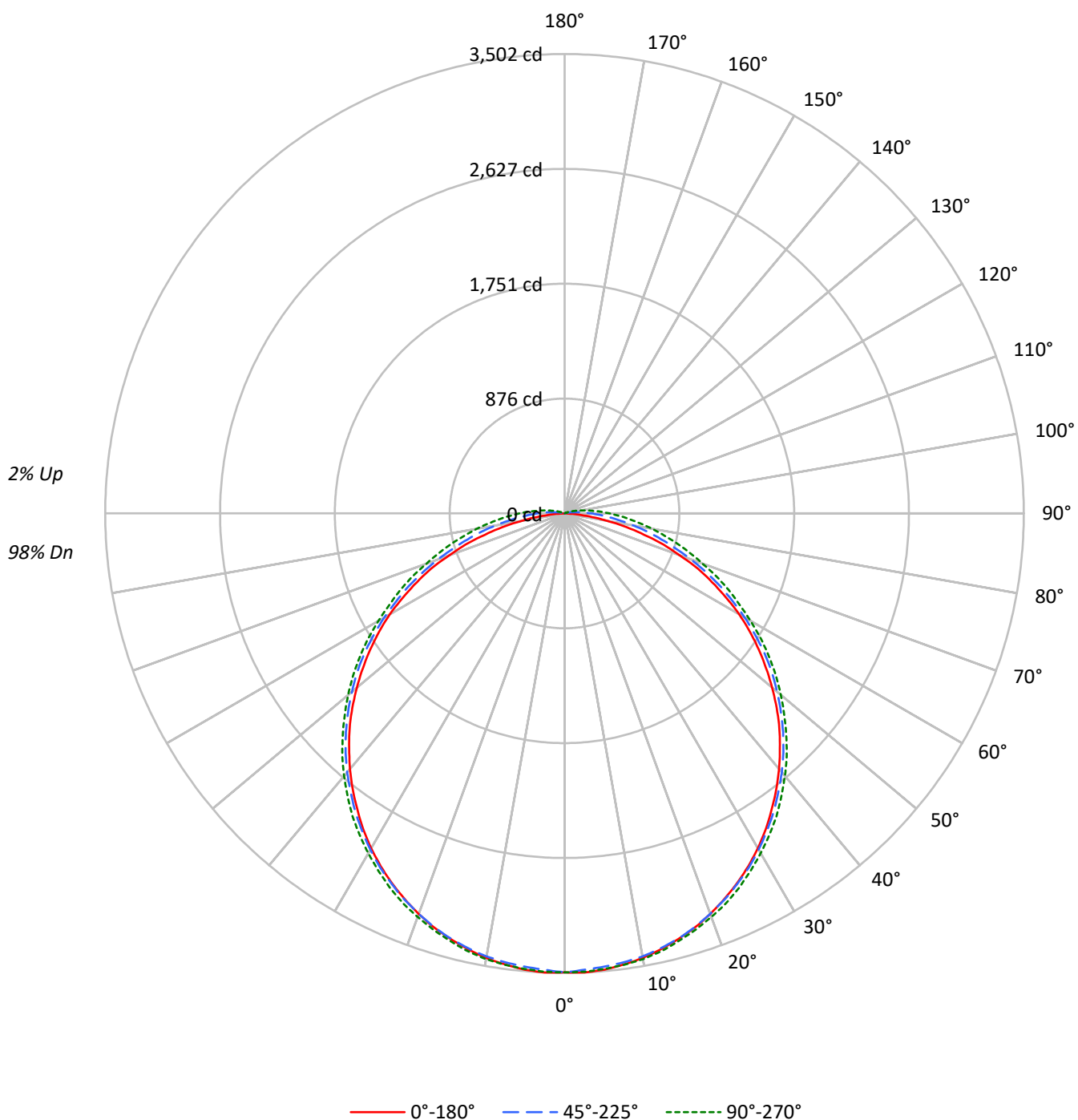
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	7060	7060	7060
5°	7059	6911	6909
10°	7025	6796	6771
15°	6977	6667	6605
20°	6926	6522	6443
25°	6862	6372	6279
30°	6787	6213	6093
35°	6689	6036	5908
40°	6588	5850	5693
45°	6479	5646	5460
50°	6334	5409	5210
55°	6180	5149	4935
60°	5995	4809	4613
65°	5681	4427	4294
70°	5220	3976	3923
75°	4552	3480	3586
80°	3532	2995	3278
85°	2037	2509	2985

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6479 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	331.0	3.1
10°-20°	949.6	9.0
20°-30°	1440.8	13.6
30°-40°	1742.2	16.5
40°-50°	1817.8	17.2
50°-60°	1662.0	15.7
60°-70°	1295.7	12.2
70°-80°	810.5	7.7
80°-90°	368.1	3.5
90°-100°	123.4	1.2
100°-110°	31.0	0.3
110°-120°	4.9	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°	2721.4	25.7
0°-40°	4463.6	42.2
0°-60°	7943.5	75.1
0°-90°	10417.8	98.5
90°-120°	159.2	1.5
90°-150°	159.2	1.5
90°-180°	159.0	1.5
0°-180°	10577.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3498	3498	3498	3498	3498	
5°	3491	3484	3468	3485	3485	332
15°	3358	3364	3355	3374	3373	948
25°	3112	3114	3117	3144	3149	1434
35°	2754	2767	2778	2806	2818	1724
45°	2317	2338	2357	2380	2392	1786
55°	1808	1830	1864	1891	1903	1616
65°	1243	1264	1308	1360	1381	1230
75°	629	668	765	857	889	671
85°	109	201	346	457	497	138
90°	1	75	204	306	343	4
95°	1	20	106	191	221	1
105°	2	2	17	51	68	2
115°	2	2	3	9	13	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°	3498.2	3498.2	3498.2	3498.2	3498.2
2.5°	3502.4	3497.4	3481.7	3497.4	3496.6
5°	3490.8	3484.2	3468.5	3485.0	3485.0
7.5°	3467.7	3465.2	3451.2	3470.2	3470.2
10°	3440.5	3439.7	3428.1	3448.8	3449.6
12.5°	3402.6	3405.9	3395.1	3414.9	3417.4
15°	3358.0	3363.8	3354.7	3373.7	3372.9
17.5°	3309.4	3312.7	3306.1	3327.5	3326.7
20°	3249.2	3253.3	3248.4	3270.6	3273.1
22.5°	3182.4	3188.2	3187.3	3210.4	3217.0
25°	3111.5	3113.9	3117.2	3143.6	3148.6
27.5°	3033.1	3037.2	3043.0	3066.9	3071.9
30°	2947.4	2954.0	2960.6	2985.3	2991.9
32.5°	2856.6	2863.2	2871.5	2903.6	2906.9
35°	2754.4	2766.8	2778.3	2806.3	2817.9
37.5°	2652.1	2667.8	2678.5	2708.2	2717.3
40°	2544.1	2559.8	2577.1	2608.4	2614.2
42.5°	2431.1	2449.3	2469.9	2497.9	2507.8
45°	2317.3	2337.9	2356.9	2380.0	2391.5
47.5°	2194.4	2215.1	2238.1	2264.5	2272.0
50°	2067.4	2091.4	2116.1	2140.8	2154.0
52.5°	1937.1	1966.0	1994.0	2020.4	2032.8
55°	1808.5	1829.9	1863.7	1891.0	1903.3
57.5°	1674.9	1693.0	1723.6	1768.1	1774.7
60°	1538.8	1555.3	1586.7	1622.9	1637.8
62.5°	1388.7	1411.0	1444.0	1490.2	1503.4
65°	1242.8	1264.2	1307.9	1359.9	1381.3
67.5°	1101.8	1109.2	1165.3	1219.7	1254.3
70°	935.2	963.2	1028.4	1095.2	1121.5
72.5°	791.7	819.7	891.5	969.8	1002.8
75°	629.2	668.0	765.3	856.8	889.0
77.5°	486.6	529.4	649.8	742.2	779.3
80°	339.8	406.6	537.7	641.6	682.0
82.5°	213.6	296.1	436.2	545.1	580.6
85°	108.9	201.2	345.5	456.9	497.3
87.5°	28.9	130.3	268.8	375.2	416.5
90°	0.8	75.0	203.7	306.0	343.1
92.5°	0.8	42.1	151.7	243.3	281.2
95°	0.8	19.8	105.6	191.3	221.0
97.5°	0.8	8.2	72.6	144.3	174.0
100°	0.8	4.1	46.2	104.7	130.3
102.5°	1.6	2.5	28.9	75.0	95.7
105°	1.6	2.5	17.3	51.1	68.4
107.5°	1.6	2.5	9.9	34.6	47.0
110°	2.5	2.5	5.8	21.4	31.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	2.5	3.3	14.0	20.6
115°	2.5	2.5	3.3	9.1	13.2
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)