

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: P517654

Luminaire Tested: HVL12-8-LD4-2LO-40-UNV-O-EDD

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: P517654
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-O-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8694.0 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

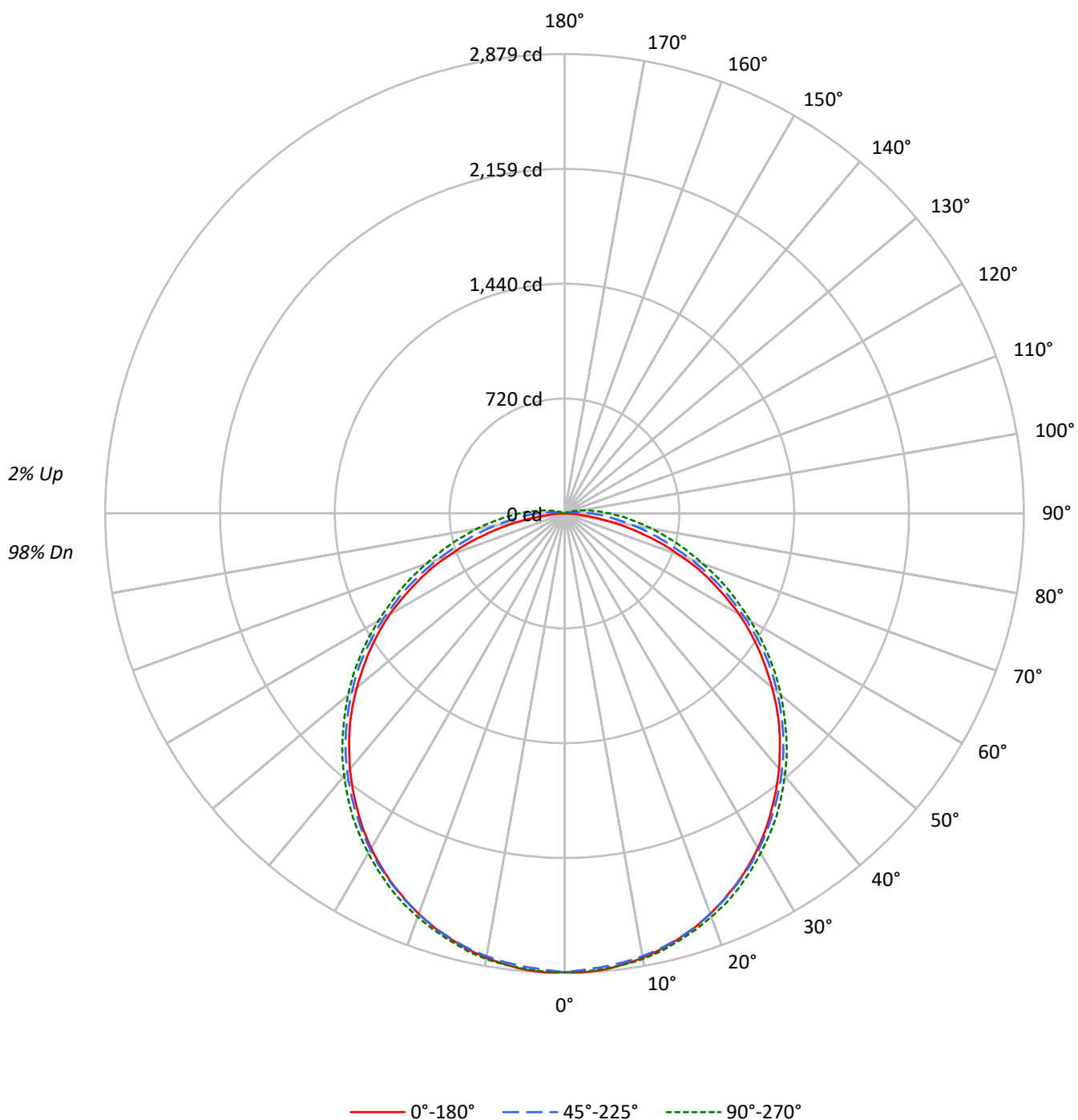
Input Watts (W): 94.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	102	98	94	105	100	96	92	95	92	89		91	88	86		87
2	98	89	82	76	95	87	80	75	83	77	73		79	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	52		62	56	51		60
5	75	61	52	45	72	60	52	45	58	50	44		56	49	44		54
6	69	55	46	40	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3869	3869	3869
5°	3868	3806	3813
10°	3850	3762	3763
15°	3823	3709	3697
20°	3795	3647	3632
25°	3760	3582	3565
30°	3719	3512	3485
35°	3665	3432	3407
40°	3610	3348	3311
45°	3550	3255	3206
50°	3471	3144	3092
55°	3386	3021	2964
60°	3285	2854	2811
65°	3113	2665	2663
70°	2860	2437	2487
75°	2495	2187	2342
80°	1935	1955	2233
85°	1116	1743	2172

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3550 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	272.1	3.1
10°-20°	780.5	9.0
20°-30°	1184.3	13.6
30°-40°	1432.0	16.5
40°-50°	1494.2	17.2
50°-60°	1366.1	15.7
60°-70°	1065.0	12.2
70°-80°	666.2	7.7
80°-90°	302.6	3.5
90°-100°	101.4	1.2
100°-110°	25.4	0.3
110°-120°	4.0	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°	2236.9	25.7
0°-40°	3669.0	42.2
0°-60°	6529.3	75.1
0°-90°	8563.1	98.5
90°-120°	130.9	1.5
90°-150°	130.9	1.5
90°-180°	131.0	1.5
0°-180°	8694.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2876	2876	2876	2876	2876	
5°	2869	2864	2851	2865	2865	272
15°	2760	2765	2758	2773	2772	779
25°	2558	2560	2562	2584	2588	1178
35°	2264	2274	2284	2307	2316	1417
45°	1905	1922	1937	1956	1966	1468
55°	1486	1504	1532	1554	1564	1328
65°	1022	1039	1075	1118	1135	1011
75°	517	549	629	704	731	551
85°	90	165	284	376	409	113
90°	1	62	167	252	282	4
95°	1	16	87	157	182	1
105°	1	2	14	42	56	1
115°	2	2	3	8	11	1
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°	2875.5	2875.5	2875.5	2875.5	2875.5
2.5°	2878.8	2874.8	2861.9	2874.8	2874.1
5°	2869.3	2863.9	2851.0	2864.6	2864.6
7.5°	2850.4	2848.3	2836.8	2852.4	2852.4
10°	2828.0	2827.3	2817.8	2834.8	2835.5
12.5°	2796.8	2799.5	2790.7	2807.0	2809.0
15°	2760.2	2765.0	2757.5	2773.1	2772.4
17.5°	2720.2	2722.9	2717.5	2735.1	2734.5
20°	2670.7	2674.1	2670.1	2688.4	2690.4
22.5°	2615.8	2620.6	2619.9	2638.9	2644.3
25°	2557.5	2559.6	2562.3	2584.0	2588.0
27.5°	2493.1	2496.5	2501.3	2520.9	2525.0
30°	2422.6	2428.1	2433.5	2453.8	2459.2
32.5°	2348.1	2353.5	2360.3	2386.7	2389.4
35°	2264.0	2274.2	2283.7	2306.7	2316.2
37.5°	2180.0	2192.9	2201.7	2226.1	2233.5
40°	2091.2	2104.1	2118.3	2144.0	2148.8
42.5°	1998.3	2013.2	2030.2	2053.2	2061.3
45°	1904.8	1921.7	1937.3	1956.3	1965.8
47.5°	1803.8	1820.7	1839.7	1861.4	1867.5
50°	1699.4	1719.0	1739.4	1759.7	1770.6
52.5°	1592.3	1616.0	1639.0	1660.7	1670.9
55°	1486.5	1504.2	1531.9	1554.3	1564.5
57.5°	1376.7	1391.6	1416.7	1453.3	1458.7
60°	1264.9	1278.4	1304.2	1334.0	1346.2
62.5°	1141.5	1159.8	1186.9	1224.9	1235.7
65°	1021.5	1039.1	1075.1	1117.8	1135.4
67.5°	905.6	911.7	957.8	1002.5	1031.0
70°	768.7	791.7	845.3	900.2	921.9
72.5°	650.7	673.8	732.8	797.2	824.3
75°	517.2	549.1	629.0	704.3	730.7
77.5°	399.9	435.2	534.1	610.1	640.6
80°	279.3	334.2	442.0	527.4	560.6
82.5°	175.6	243.3	358.6	448.1	477.2
85°	89.5	165.4	284.0	375.5	408.7
87.5°	23.7	107.1	221.0	308.4	342.3
90°	0.7	61.7	167.4	251.5	282.0
92.5°	0.7	34.6	124.7	200.0	231.1
95°	0.7	16.3	86.8	157.3	181.7
97.5°	0.7	6.8	59.7	118.6	143.0
100°	0.7	3.4	38.0	86.1	107.1
102.5°	1.4	2.0	23.7	61.7	78.6
105°	1.4	2.0	14.2	42.0	56.3
107.5°	1.4	2.0	8.1	28.5	38.6
110°	2.0	2.0	4.7	17.6	25.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	2.0	2.7	11.5	16.9
115°	2.0	2.0	2.7	7.5	10.8
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)