

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: P517661

Luminaire Tested: HVL12-8-LD4-2STD-30-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: P517661
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-30-UNV-O-EDD-90
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12574.0 lumens
Efficiency: N/A
Efficacy: 93.6 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

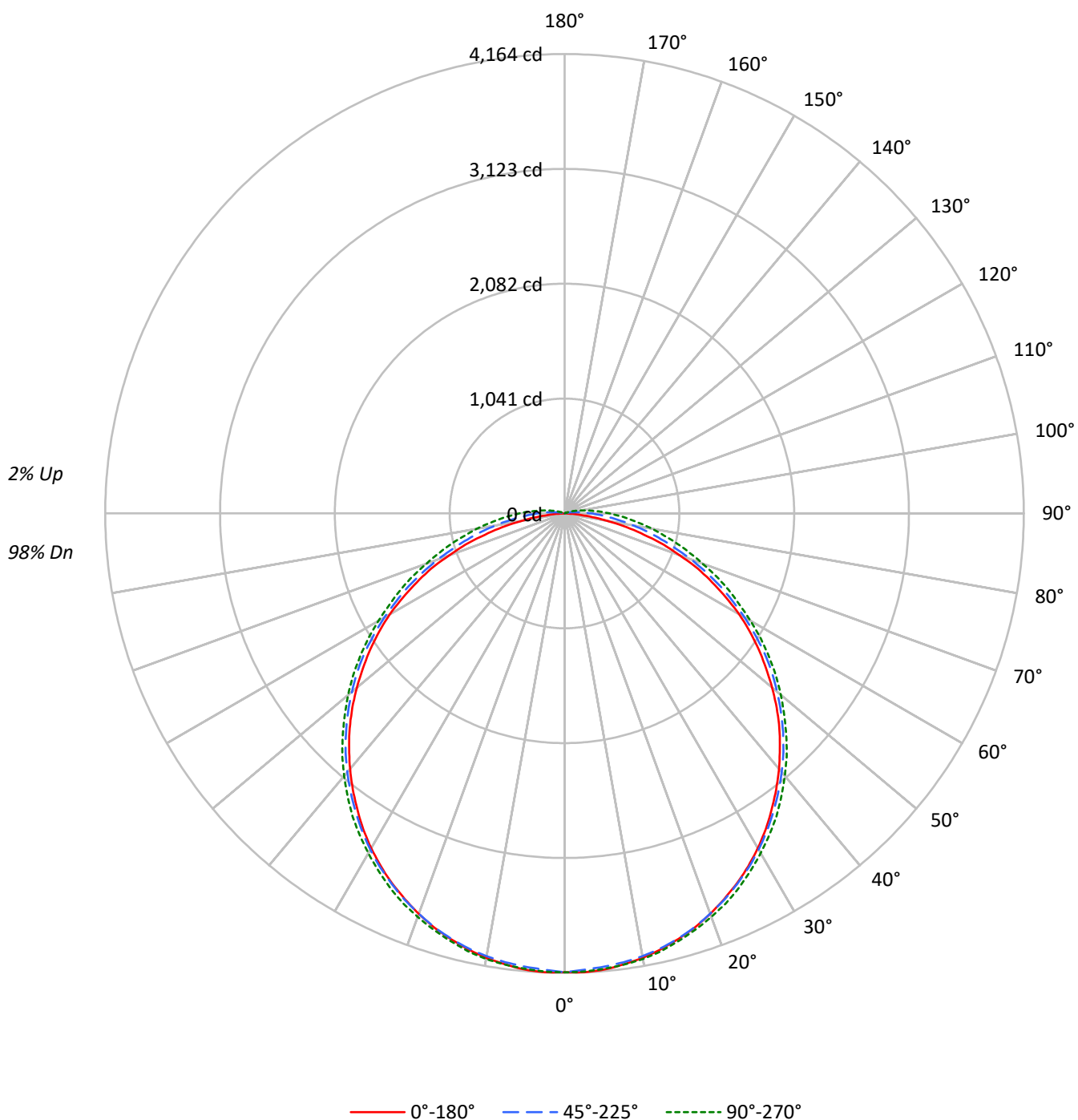
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5595	5595	5595
5°	5595	5505	5515
10°	5568	5441	5443
15°	5530	5365	5347
20°	5489	5275	5253
25°	5438	5181	5156
30°	5379	5079	5041
35°	5301	4964	4927
40°	5221	4842	4789
45°	5135	4707	4637
50°	5020	4547	4472
55°	4897	4370	4287
60°	4751	4128	4065
65°	4502	3854	3851
70°	4137	3525	3597
75°	3608	3164	3387
80°	2799	2827	3229
85°	1613	2521	3141

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5135 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	393.5	3.1
10°-20°	1128.9	9.0
20°-30°	1712.8	13.6
30°-40°	2071.1	16.5
40°-50°	2161.1	17.2
50°-60°	1975.9	15.7
60°-70°	1540.3	12.2
70°-80°	963.5	7.7
80°-90°	437.6	3.5
90°-100°	146.7	1.2
100°-110°	36.8	0.3
110°-120°	5.8	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°	3235.2	25.7
0°-40°	5306.4	42.2
0°-60°	9443.3	75.1
0°-90°	12384.7	98.5
90°-120°	189.3	1.5
90°-150°	189.3	1.5
90°-180°	189.0	1.5
0°-180°	12574.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4159	4159	4159	4159	4159	
5°	4150	4142	4123	4143	4143	394
15°	3992	3999	3988	4011	4010	1127
25°	3699	3702	3706	3737	3743	1704
35°	3274	3289	3303	3336	3350	2049
45°	2755	2779	2802	2829	2843	2123
55°	2150	2175	2216	2248	2263	1921
65°	1477	1503	1555	1617	1642	1462
75°	748	794	910	1019	1057	797
85°	129	239	411	543	591	164
90°	1	89	242	364	408	5
95°	1	24	126	227	263	1
105°	2	3	21	61	81	2
115°	3	3	4	11	16	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°	4158.7	4158.7	4158.7	4158.7	4158.7
2.5°	4163.6	4157.7	4139.1	4157.7	4156.8
5°	4149.9	4142.1	4123.4	4143.0	4143.0
7.5°	4122.4	4119.5	4102.8	4125.4	4125.4
10°	4090.1	4089.1	4075.4	4099.9	4100.9
12.5°	4045.0	4048.9	4036.2	4059.7	4062.6
15°	3992.1	3998.9	3988.1	4010.7	4009.7
17.5°	3934.2	3938.1	3930.3	3955.8	3954.8
20°	3862.6	3867.6	3861.7	3888.1	3891.1
22.5°	3783.2	3790.1	3789.1	3816.6	3824.4
25°	3698.9	3701.9	3705.8	3737.2	3743.0
27.5°	3605.8	3610.7	3617.6	3646.0	3651.9
30°	3503.8	3511.7	3519.5	3548.9	3556.8
32.5°	3396.0	3403.8	3413.6	3451.9	3455.8
35°	3274.4	3289.1	3302.9	3336.2	3349.9
37.5°	3152.9	3171.5	3184.2	3219.5	3230.3
40°	3024.4	3043.1	3063.6	3100.9	3107.8
42.5°	2890.1	2911.7	2936.2	2969.5	2981.3
45°	2754.8	2779.3	2801.9	2829.3	2843.1
47.5°	2608.8	2633.3	2660.7	2692.1	2700.9
50°	2457.8	2486.2	2515.6	2545.0	2560.7
52.5°	2302.9	2337.2	2370.5	2401.9	2416.6
55°	2149.9	2175.4	2215.6	2248.0	2262.7
57.5°	1991.1	2012.7	2049.0	2101.9	2109.8
60°	1829.4	1849.0	1886.2	1929.4	1947.0
62.5°	1650.9	1677.4	1716.6	1771.5	1787.2
65°	1477.4	1502.9	1554.9	1616.6	1642.1
67.5°	1309.8	1318.6	1385.3	1450.0	1491.1
70°	1111.7	1145.1	1222.5	1301.9	1333.3
72.5°	941.2	974.5	1059.8	1152.9	1192.1
75°	748.0	794.1	909.8	1018.6	1056.8
77.5°	578.4	629.4	772.5	882.3	926.4
80°	403.9	483.3	639.2	762.7	810.8
82.5°	253.9	352.0	518.6	648.0	690.2
85°	129.4	239.2	410.8	543.1	591.2
87.5°	34.3	154.9	319.6	446.1	495.1
90°	1.0	89.2	242.2	363.7	407.8
92.5°	1.0	50.0	180.4	289.2	334.3
95°	1.0	23.5	125.5	227.4	262.7
97.5°	1.0	9.8	86.3	171.6	206.9
100°	1.0	4.9	54.9	124.5	154.9
102.5°	2.0	2.9	34.3	89.2	113.7
105°	2.0	2.9	20.6	60.8	81.4
107.5°	2.0	2.9	11.8	41.2	55.9
110°	2.9	2.9	6.9	25.5	37.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.9	2.9	3.9	16.7	24.5
115°	2.9	2.9	3.9	10.8	15.7
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)