

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: P517700

Luminaire Tested: HVL12-8-LD4-3LO-40-UNV-C-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: P517700
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-3LO-40-UNV-C-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: 15141.9 lumens
Efficiency: N/A
Efficacy: 109.4 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

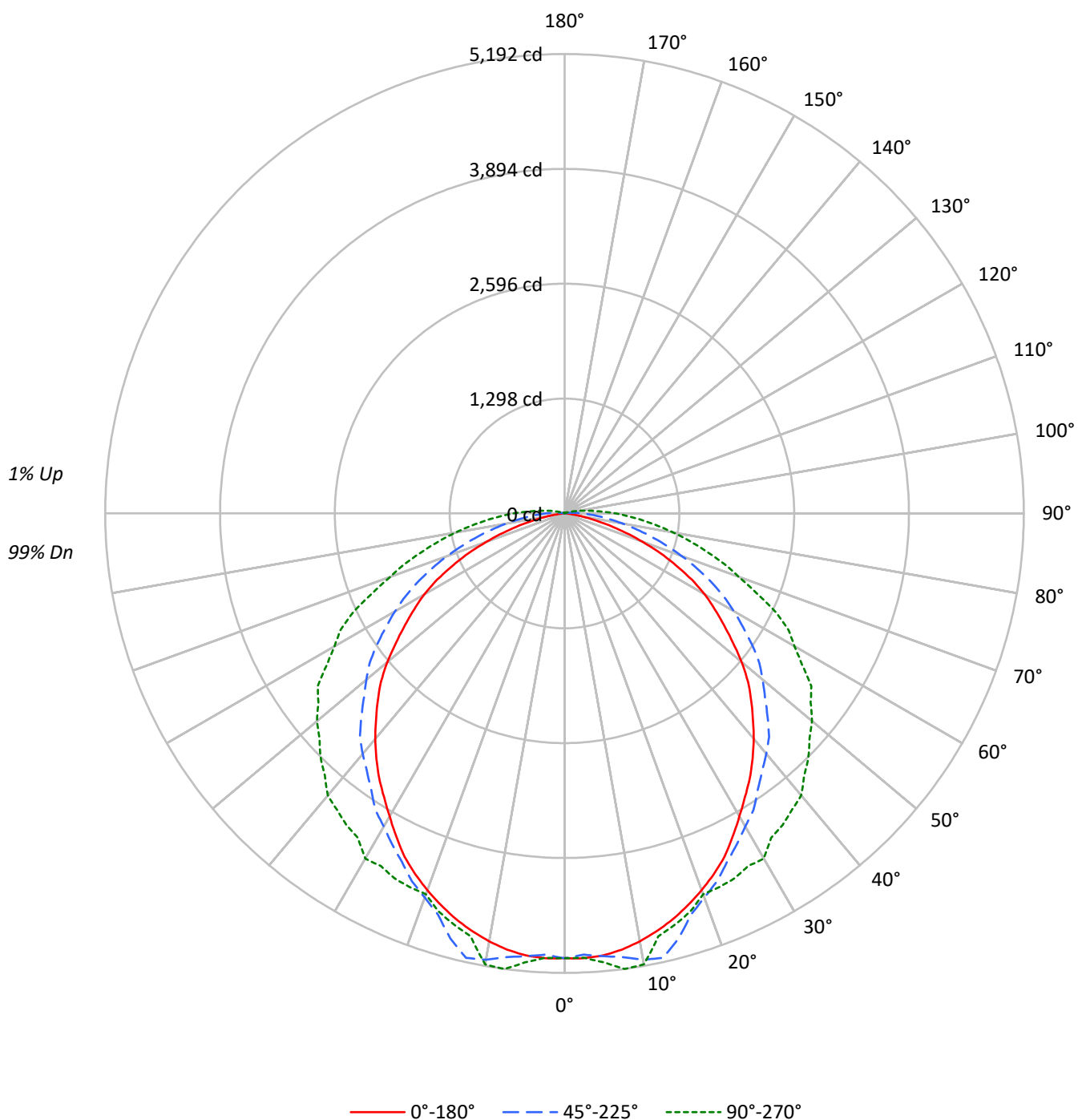
Input Watts (W): 138.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6763	6763	6763
5°	6760	6704	6778
10°	6683	6837	6868
15°	6574	6694	6419
20°	6439	6310	6183
25°	6294	6077	6267
30°	6069	5896	6383
35°	5913	5726	6321
40°	5744	5611	6415
45°	5563	5451	6359
50°	5341	5284	6378
55°	5008	5105	6452
60°	4760	4842	6266
65°	4241	4520	6174
70°	3497	4083	5661
75°	2539	3536	5322
80°	1468	2989	4983
85°	587	2431	4690

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 6452 cd/sqm

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CATALOG NUMBER: HVL12-8-LD4-3LO-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	483.1	3.2
10°-20°	1375.7	9.1
20°-30°	2046.9	13.5
30°-40°	2460.4	16.2
40°-50°	2589.7	17.1
50°-60°	2402.9	15.9
60°-70°	1900.0	12.5
70°-80°	1160.5	7.7
80°-90°	505.6	3.3
90°-100°	157.4	1.0
100°-110°	35.4	0.2
110°-120°	14.2	0.1
120°-130°	8.0	0.1
130°-140°	2.1	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°	3905.7	25.8
0°-40°	6366.1	42.0
0°-60°	11358.7	75.0
0°-90°	14924.8	98.6
90°-120°	207.0	1.4
90°-150°	217.1	1.4
90°-180°	217.0	1.4
0°-180°	15141.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5026	5026	5026	5026	5026	
5°	5014	5004	5021	5078	5092	475
15°	4746	4928	4976	4811	4814	1337
25°	4281	4554	4346	4476	4549	1965
35°	3652	3754	3810	4156	4297	2283
45°	2985	2998	3245	3759	3899	2301
55°	2198	2234	2588	3155	3406	1975
65°	1392	1436	1824	2413	2632	1378
75°	526	697	1017	1562	1661	574
85°	47	164	396	769	883	73
90°	1	49	208	487	574	2
95°	1	12	91	267	327	1
105°	1	7	18	52	74	1
115°	1	4	14	24	25	2
125°	1	2	6	15	22	2
135°	2	2	2	5	7	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

TEST NUMBER: P517700

CATALOG NUMBER: HVL12-8-LD4-3LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5026.3	5026.3	5026.3	5026.3	5026.3
2.5°	5032.5	5019.2	4991.5	5018.1	5025.3
5°	5014.0	5003.8	5021.2	5077.5	5091.8
7.5°	4972.1	5011.0	5057.0	5159.4	5192.2
10°	4909.6	4983.3	5121.5	5208.6	5174.8
12.5°	4833.8	4958.7	5144.1	4974.1	4895.3
15°	4745.8	4928.0	4976.1	4811.3	4814.4
17.5°	4642.4	4902.4	4754.0	4749.9	4720.2
20°	4530.8	4816.4	4619.8	4611.6	4579.9
22.5°	4411.0	4702.8	4501.1	4484.7	4570.7
25°	4280.9	4554.3	4346.5	4476.5	4549.2
27.5°	4118.1	4359.8	4217.4	4401.7	4492.9
30°	3953.3	4159.1	4085.4	4342.4	4504.1
32.5°	3798.7	3949.2	3976.8	4319.8	4346.5
35°	3652.2	3753.6	3809.9	4156.0	4297.3
37.5°	3491.5	3519.1	3668.6	4087.4	4223.6
40°	3327.7	3310.3	3549.9	3974.8	4163.2
42.5°	3151.6	3145.4	3423.9	3918.5	4012.7
45°	2984.7	2998.0	3244.7	3758.7	3899.0
47.5°	2813.7	2831.1	3074.8	3583.6	3757.7
50°	2615.0	2637.6	2923.2	3428.0	3652.2
52.5°	2400.0	2443.0	2775.8	3280.6	3506.9
55°	2198.3	2234.1	2588.4	3154.6	3405.5
57.5°	2014.0	2035.5	2394.9	2995.9	3185.3
60°	1832.8	1837.9	2212.6	2819.8	3001.0
62.5°	1624.9	1634.1	2025.3	2612.0	2854.6
65°	1391.5	1435.5	1823.6	2413.3	2632.4
67.5°	1173.4	1250.2	1617.8	2231.1	2345.8
70°	939.9	1070.0	1416.1	2017.1	2098.0
72.5°	725.9	878.5	1209.2	1777.5	1891.1
75°	526.3	697.3	1016.7	1562.5	1660.8
77.5°	354.3	528.3	836.5	1324.9	1455.0
80°	211.9	386.0	675.8	1104.8	1251.2
82.5°	108.5	259.0	524.2	926.6	1057.7
85°	47.1	163.8	396.2	768.9	882.6
87.5°	13.3	93.2	291.8	621.5	717.8
90°	1.0	49.1	207.9	487.4	574.4
92.5°	1.0	23.5	146.4	368.6	435.2
95°	1.0	12.3	91.1	267.2	326.6
97.5°	1.0	7.2	55.3	189.4	239.6
100°	1.0	6.1	32.8	125.9	171.0
102.5°	1.0	7.2	22.5	79.9	111.6
105°	1.0	7.2	18.4	52.2	73.7
107.5°	2.0	7.2	16.4	38.9	51.2
110°	1.0	6.1	17.4	29.7	39.9

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CATALOG NUMBER: HVL12-8-LD4-3LO-40-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.0	5.1	16.4	24.6	29.7
115°	1.0	4.1	14.3	23.5	24.6
117.5°	2.0	3.1	11.3	23.5	24.6
120°	2.0	2.0	9.2	22.5	25.6
122.5°	2.0	2.0	7.2	20.5	24.6
125°	1.0	2.0	6.1	15.4	21.5
127.5°	2.0	2.0	5.1	12.3	16.4
130°	2.0	2.0	4.1	9.2	12.3
132.5°	2.0	2.0	3.1	7.2	9.2
135°	2.0	2.0	2.0	5.1	7.2
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)