

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: P518248

Luminaire Tested: HVL8-8-LD4-2STD-50-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: P518248
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-50-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12474.0 lumens
Efficiency: N/A
Efficacy: 95.4 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

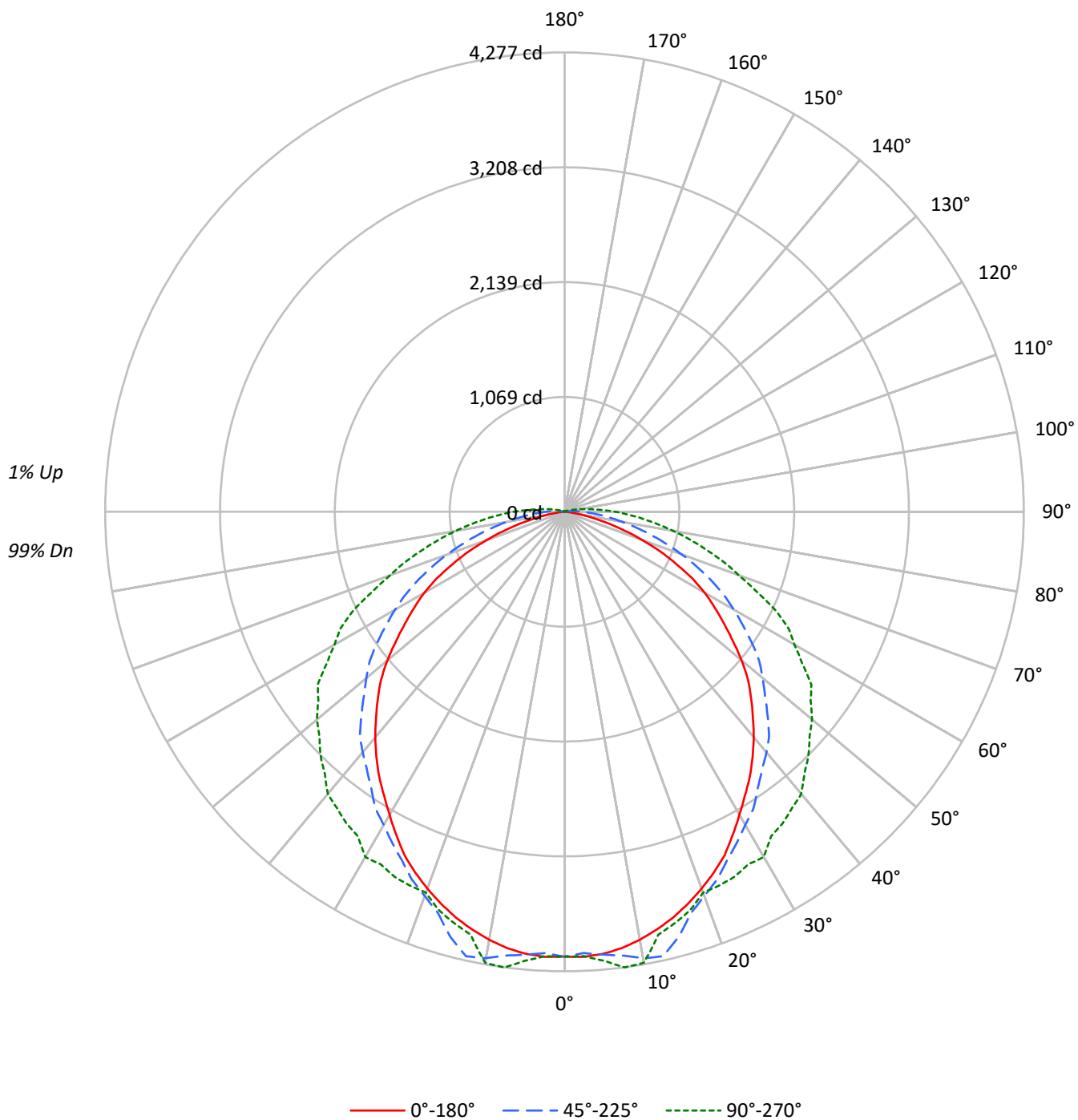
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P518248

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P518248

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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	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	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	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	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°	8357	8357	8357
5°	8353	8242	8316
10°	8258	8364	8368
15°	8123	8147	7767
20°	7956	7641	7427
25°	7778	7320	7474
30°	7499	7062	7556
35°	7306	6818	7423
40°	7098	6638	7469
45°	6875	6403	7334
50°	6600	6156	7278
55°	6188	5891	7274
60°	5882	5525	6963
65°	5240	5085	6741
70°	4322	4510	6045
75°	3137	3809	5518
80°	1815	3101	4954
85°	726	2370	4364

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 7334 cd/sqm

TEST NUMBER: P518248

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	398.0	3.2
10°-20°	1133.3	9.1
20°-30°	1686.2	13.5
30°-40°	2026.9	16.2
40°-50°	2133.4	17.1
50°-60°	1979.6	15.9
60°-70°	1565.2	12.5
70°-80°	956.1	7.7
80°-90°	416.6	3.3
90°-100°	129.7	1.0
100°-110°	29.1	0.2
110°-120°	11.7	0.1
120°-130°	6.6	0.1
130°-140°	1.8	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°	3217.5	25.8
0°-40°	5244.4	42.0
0°-60°	9357.3	75.0
0°-90°	12295.1	98.6
90°-120°	170.5	1.4
90°-150°	178.9	1.4
90°-180°	179.0	1.4
0°-180°	12474.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4141	4141	4141	4141	4141	
5°	4131	4122	4136	4183	4195	391
15°	3910	4060	4099	3964	3966	1101
25°	3527	3752	3581	3688	3748	1619
35°	3009	3092	3139	3424	3540	1880
45°	2459	2470	2673	3096	3212	1895
55°	1811	1840	2132	2599	2805	1627
65°	1146	1183	1502	1988	2169	1135
75°	434	574	838	1287	1368	473
85°	39	135	326	634	727	60
90°	1	40	171	402	473	2
95°	1	10	75	220	269	1
105°	1	6	15	43	61	1
115°	1	3	12	19	20	1
125°	1	2	5	13	18	1
135°	2	2	2	4	6	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: P518248

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4140.7	4140.7	4140.7	4140.7	4140.7
2.5°	4145.8	4134.8	4112.0	4133.9	4139.8
5°	4130.6	4122.1	4136.5	4182.9	4194.7
7.5°	4096.0	4128.0	4166.0	4250.3	4277.3
10°	4044.5	4105.3	4219.1	4290.8	4263.0
12.5°	3982.1	4085.0	4237.7	4097.7	4032.7
15°	3909.6	4059.7	4099.4	3963.6	3966.1
17.5°	3824.4	4038.6	3916.3	3912.9	3888.5
20°	3732.4	3967.8	3805.8	3799.1	3772.9
22.5°	3633.8	3874.1	3708.0	3694.5	3765.3
25°	3526.6	3751.8	3580.6	3687.7	3747.6
27.5°	3392.5	3591.6	3474.3	3626.2	3701.2
30°	3256.7	3426.3	3365.5	3577.2	3710.5
32.5°	3129.3	3253.3	3276.1	3558.7	3580.6
35°	3008.7	3092.2	3138.6	3423.7	3540.1
37.5°	2876.3	2899.1	3022.2	3367.2	3479.4
40°	2741.3	2727.0	2924.4	3274.4	3429.6
42.5°	2596.3	2591.2	2820.6	3228.0	3305.6
45°	2458.8	2469.7	2673.0	3096.4	3212.0
47.5°	2317.9	2332.2	2533.0	2952.2	3095.6
50°	2154.3	2172.8	2408.2	2824.0	3008.7
52.5°	1977.1	2012.6	2286.7	2702.5	2889.0
55°	1811.0	1840.5	2132.3	2598.8	2805.4
57.5°	1659.1	1676.9	1972.9	2468.1	2624.1
60°	1509.8	1514.1	1822.8	2323.0	2472.3
62.5°	1338.6	1346.2	1668.4	2151.7	2351.6
65°	1146.3	1182.6	1502.3	1988.1	2168.6
67.5°	966.6	1029.9	1332.7	1838.0	1932.4
70°	774.3	881.4	1166.5	1661.7	1728.3
72.5°	598.0	723.7	996.2	1464.3	1557.9
75°	433.6	574.4	837.6	1287.2	1368.1
77.5°	291.8	435.2	689.1	1091.5	1198.6
80°	174.6	318.0	556.7	910.1	1030.7
82.5°	89.4	213.4	431.9	763.4	871.3
85°	38.8	135.0	326.4	633.5	727.1
87.5°	11.0	76.8	240.4	512.0	591.3
90°	0.8	40.5	171.2	401.5	473.2
92.5°	0.8	19.4	120.6	303.7	358.5
95°	0.8	10.1	75.1	220.2	269.1
97.5°	0.8	5.9	45.5	156.0	197.4
100°	0.8	5.1	27.0	103.7	140.9
102.5°	0.8	5.9	18.6	65.8	91.9
105°	0.8	5.9	15.2	43.0	60.7
107.5°	1.7	5.9	13.5	32.1	42.2
110°	0.8	5.1	14.3	24.5	32.9

TEST NUMBER: P518248

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	4.2	13.5	20.2	24.5
115°	0.8	3.4	11.8	19.4	20.2
117.5°	1.7	2.5	9.3	19.4	20.2
120°	1.7	1.7	7.6	18.6	21.1
122.5°	1.7	1.7	5.9	16.9	20.2
125°	0.8	1.7	5.1	12.7	17.7
127.5°	1.7	1.7	4.2	10.1	13.5
130°	1.7	1.7	3.4	7.6	10.1
132.5°	1.7	1.7	2.5	5.9	7.6
135°	1.7	1.7	1.7	4.2	5.9
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)