

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: P518212

Luminaire Tested: HVL8-8-LD4-2HI-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: P518212
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-40-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

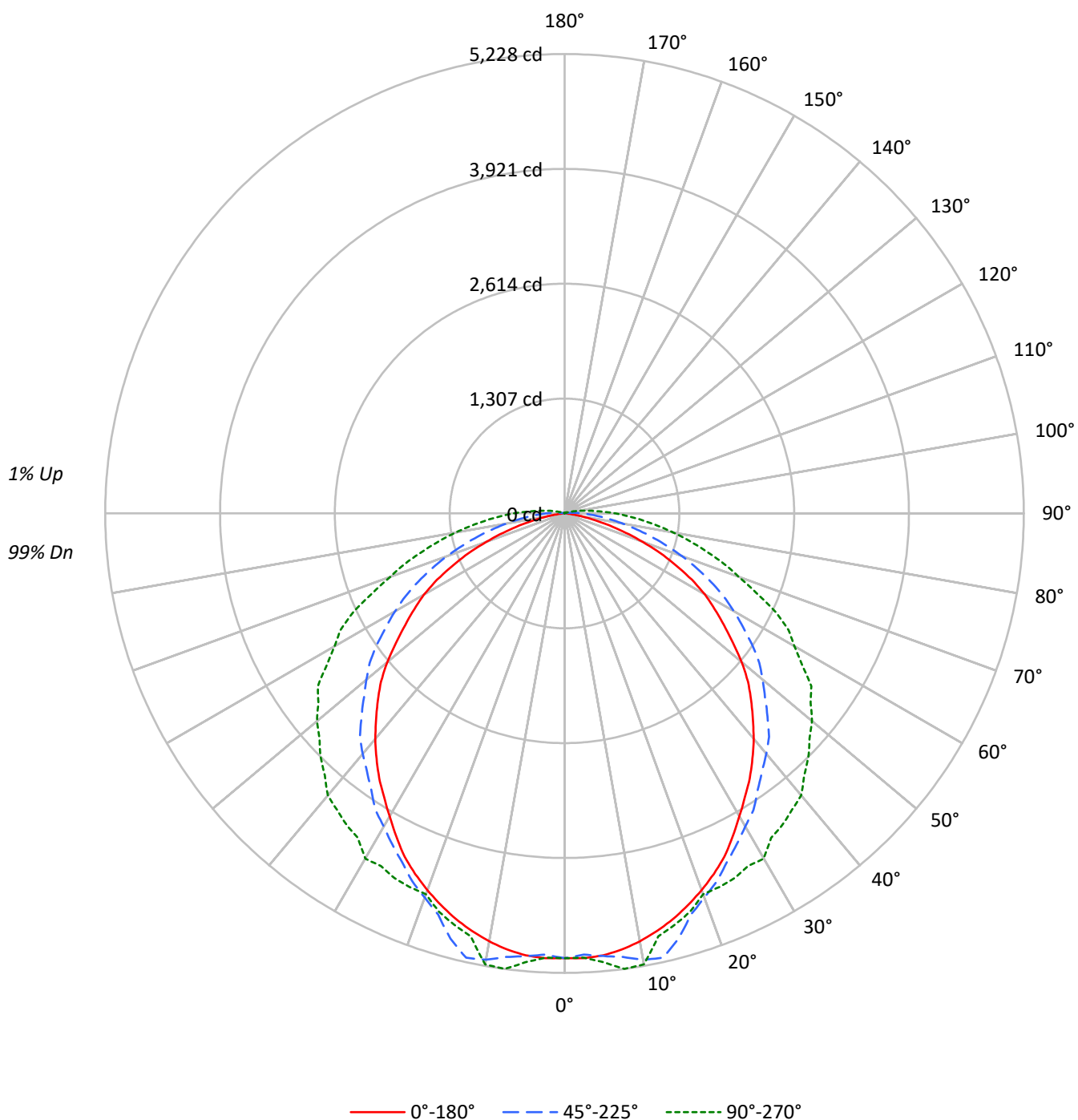
Lumens per Lamp: N/A
Luminaire Lumens: 15245.0 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

Input Watts (W): 172.3
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			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°	10213	10213	10213
5°	10209	10073	10164
10°	10093	10222	10226
15°	9928	9957	9492
20°	9723	9339	9077
25°	9505	8946	9134
30°	9165	8631	9235
35°	8929	8333	9071
40°	8675	8112	9128
45°	8402	7825	8963
50°	8066	7523	8895
55°	7563	7200	8890
60°	7189	6752	8510
65°	6404	6215	8239
70°	5282	5512	7388
75°	3834	4655	6745
80°	2218	3790	6055
85°	886	2896	5333

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8963 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-2HI-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	486.4	3.2
10°-20°	1385.1	9.1
20°-30°	2060.8	13.5
30°-40°	2477.1	16.2
40°-50°	2607.3	17.1
50°-60°	2419.3	15.9
60°-70°	1912.9	12.5
70°-80°	1168.4	7.7
80°-90°	509.1	3.3
90°-100°	158.5	1.0
100°-110°	35.6	0.2
110°-120°	14.3	0.1
120°-130°	8.1	0.1
130°-140°	2.2	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°	3932.3	25.8
0°-40°	6409.4	42.0
0°-60°	11436.0	75.0
0°-90°	15026.4	98.6
90°-120°	208.4	1.4
90°-150°	218.6	1.4
90°-180°	219.0	1.4
0°-180°	15245.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5060	5060	5060	5060	5060	
5°	5048	5038	5055	5112	5126	478
15°	4778	4962	5010	4844	4847	1346
25°	4310	4585	4376	4507	4580	1979
35°	3677	3779	3836	4184	4326	2298
45°	3005	3018	3267	3784	3926	2316
55°	2213	2249	2606	3176	3429	1989
65°	1401	1445	1836	2430	2650	1387
75°	530	702	1024	1573	1672	578
85°	47	165	399	774	889	73
90°	1	50	209	491	578	2
95°	1	12	92	269	329	1
105°	1	7	19	53	74	1
115°	1	4	14	24	25	2
125°	1	2	6	16	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: P518212

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5060.5	5060.5	5060.5	5060.5	5060.5
2.5°	5066.7	5053.3	5025.5	5052.3	5059.5
5°	5048.1	5037.8	5055.4	5112.1	5126.5
7.5°	5005.9	5045.0	5091.4	5194.5	5227.5
10°	4943.0	5017.2	5156.4	5244.0	5210.0
12.5°	4866.7	4992.5	5179.1	5007.9	4928.6
15°	4778.1	4961.5	5010.0	4844.0	4847.1
17.5°	4673.9	4935.8	4786.3	4782.2	4752.3
20°	4561.6	4849.2	4651.3	4643.0	4611.1
22.5°	4441.0	4734.8	4531.7	4515.2	4601.8
25°	4310.0	4585.3	4376.0	4506.9	4580.1
27.5°	4146.1	4389.4	4246.1	4431.7	4523.4
30°	3980.2	4187.4	4113.1	4371.9	4534.8
32.5°	3824.5	3976.0	4003.9	4349.2	4376.0
35°	3677.1	3779.1	3835.8	4184.3	4326.5
37.5°	3515.2	3543.1	3693.6	4115.2	4252.3
40°	3350.3	3332.8	3574.0	4001.8	4191.5
42.5°	3173.0	3166.8	3447.2	3945.1	4040.0
45°	3005.0	3018.4	3266.8	3784.3	3925.5
47.5°	2832.8	2850.3	3095.7	3608.0	3783.3
50°	2632.8	2655.5	2943.1	3451.3	3677.1
52.5°	2416.3	2459.6	2794.7	3302.9	3530.7
55°	2213.3	2249.3	2606.0	3176.1	3428.7
57.5°	2027.7	2049.4	2411.2	3016.3	3207.0
60°	1845.2	1850.4	2227.7	2839.0	3021.5
62.5°	1636.0	1645.3	2039.0	2629.7	2874.0
65°	1400.9	1445.3	1836.0	2429.7	2650.4
67.5°	1181.4	1258.7	1628.8	2246.3	2361.7
70°	946.3	1077.3	1425.7	2030.8	2112.2
72.5°	730.9	884.5	1217.5	1789.6	1904.0
75°	529.9	702.0	1023.6	1573.1	1672.1
77.5°	356.7	531.9	842.2	1333.9	1464.9
80°	213.4	388.6	680.4	1112.3	1259.7
82.5°	109.3	260.8	527.8	932.9	1064.9
85°	47.4	164.9	398.9	774.2	888.6
87.5°	13.4	93.8	293.8	625.7	722.6
90°	1.0	49.5	209.3	490.7	578.3
92.5°	1.0	23.7	147.4	371.1	438.1
95°	1.0	12.4	91.7	269.1	328.8
97.5°	1.0	7.2	55.7	190.7	241.2
100°	1.0	6.2	33.0	126.8	172.2
102.5°	1.0	7.2	22.7	80.4	112.4
105°	1.0	7.2	18.6	52.6	74.2
107.5°	2.1	7.2	16.5	39.2	51.5
110°	1.0	6.2	17.5	29.9	40.2

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.1	5.2	16.5	24.7	29.9
115°	1.0	4.1	14.4	23.7	24.7
117.5°	2.1	3.1	11.3	23.7	24.7
120°	2.1	2.1	9.3	22.7	25.8
122.5°	2.1	2.1	7.2	20.6	24.7
125°	1.0	2.1	6.2	15.5	21.6
127.5°	2.1	2.1	5.2	12.4	16.5
130°	2.1	2.1	4.1	9.3	12.4
132.5°	2.1	2.1	3.1	7.2	9.3
135°	2.1	2.1	2.1	5.2	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)