

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: P518259

Luminaire Tested: HVL8-8-LD4-3HI-40-UNV-C-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: P518259
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-40-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28613.0 lumens
Efficiency: N/A
Efficacy: 113.6 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

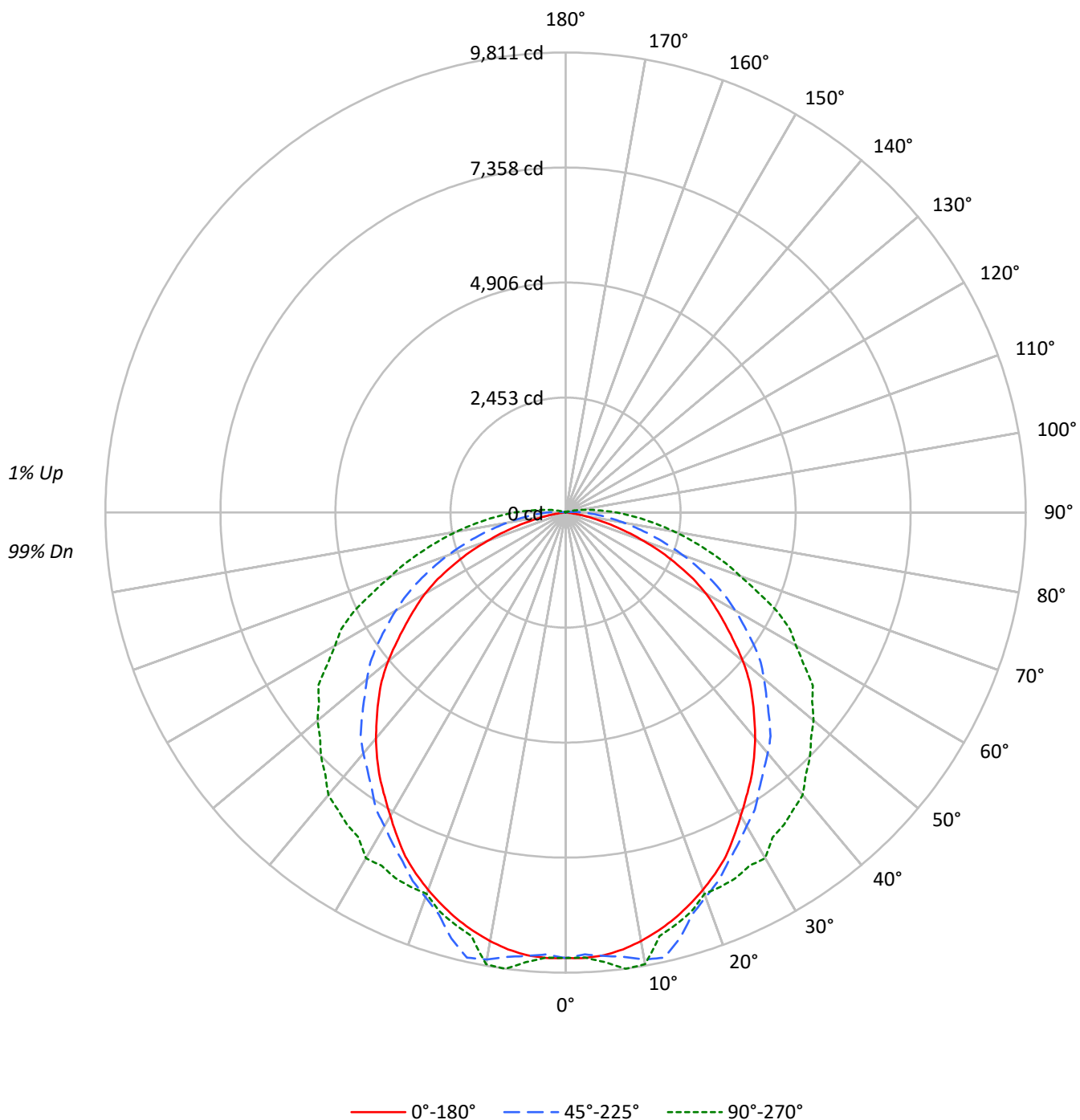
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		99
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		81
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		56
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		47
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		36
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		32
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		28
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		25
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19169	19169	19169
5°	19160	18906	19076
10°	18943	19186	19193
15°	18634	18688	17815
20°	18250	17528	17037
25°	17841	16790	17144
30°	17202	16199	17333
35°	16759	15640	17026
40°	16282	15226	17132
45°	15769	14687	16823
50°	15139	14121	16695
55°	14194	13514	16685
60°	13493	12673	15973
65°	12020	11665	15463
70°	9914	10345	13867
75°	7195	8737	12659
80°	4163	7114	11364
85°	1665	5437	10010

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 16823 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	912.8	3.2
10°-20°	2599.6	9.1
20°-30°	3867.9	13.5
30°-40°	4649.2	16.2
40°-50°	4893.6	17.1
50°-60°	4540.7	15.9
60°-70°	3590.2	12.5
70°-80°	2193.0	7.7
80°-90°	955.5	3.3
90°-100°	297.4	1.0
100°-110°	66.8	0.2
110°-120°	26.9	0.1
120°-130°	15.1	0.1
130°-140°	4.1	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°	7380.4	25.8
0°-40°	12029.6	42.0
0°-60°	21463.9	75.0
0°-90°	28202.7	98.6
90°-120°	391.1	1.4
90°-150°	410.3	1.4
90°-180°	410.0	1.4
0°-180°	28613.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9498	9498	9498	9498	9498	
5°	9475	9455	9488	9595	9622	898
15°	8968	9312	9403	9092	9098	2526
25°	8089	8606	8213	8459	8596	3714
35°	6902	7093	7199	7853	8120	4313
45°	5640	5665	6131	7103	7368	4348
55°	4154	4222	4891	5961	6435	3732
65°	2629	2713	3446	4560	4974	2604
75°	994	1318	1921	2952	3138	1085
85°	89	310	749	1453	1668	138
90°	2	93	393	921	1085	4
95°	2	23	172	505	617	2
105°	2	14	35	99	139	3
115°	2	8	27	44	46	3
125°	2	4	12	29	41	3
135°	4	4	4	10	14	2
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°	9498.0	9498.0	9498.0	9498.0	9498.0
2.5°	9509.6	9484.4	9432.2	9482.5	9496.0
5°	9474.7	9455.4	9488.3	9594.7	9621.8
7.5°	9395.4	9468.9	9556.0	9749.5	9811.4
10°	9277.4	9416.7	9677.9	9842.4	9778.5
12.5°	9134.2	9370.3	9720.5	9399.3	9250.3
15°	8967.8	9312.2	9403.2	9091.7	9097.5
17.5°	8772.4	9263.8	8983.3	8975.6	8919.5
20°	8561.5	9101.3	8729.8	8714.4	8654.4
22.5°	8335.1	8886.6	8505.4	8474.4	8637.0
25°	8089.4	8606.0	8213.2	8459.0	8596.3
27.5°	7781.8	8238.4	7969.5	8317.7	8489.9
30°	7470.3	7859.2	7719.9	8205.5	8511.2
32.5°	7178.1	7462.5	7514.8	8162.9	8213.2
35°	6901.5	7093.0	7199.4	7853.4	8120.4
37.5°	6597.7	6649.9	6932.4	7723.7	7981.1
40°	6288.1	6255.2	6708.0	7510.9	7866.9
42.5°	5955.3	5943.7	6470.0	7404.5	7582.5
45°	5640.0	5665.1	6131.4	7102.7	7367.7
47.5°	5316.8	5349.7	5810.2	6771.8	7100.7
50°	4941.5	4984.1	5523.9	6477.7	6901.5
52.5°	4535.2	4616.4	5245.3	6199.1	6626.7
55°	4154.0	4221.7	4891.2	5961.1	6435.2
57.5°	3805.8	3846.4	4525.5	5661.2	6019.2
60°	3463.3	3473.0	4181.1	5328.5	5670.9
62.5°	3070.5	3087.9	3827.0	4935.7	5394.2
65°	2629.4	2712.6	3445.9	4560.3	4974.4
67.5°	2217.3	2362.4	3057.0	4215.9	4432.6
70°	1776.2	2021.9	2675.8	3811.6	3964.4
72.5°	1371.8	1660.1	2285.0	3358.8	3573.6
75°	994.5	1317.6	1921.3	2952.5	3138.3
77.5°	669.4	998.4	1580.7	2503.6	2749.4
80°	400.5	729.4	1277.0	2087.7	2364.3
82.5°	205.1	489.5	990.6	1751.0	1998.7
85°	89.0	309.6	748.8	1453.0	1667.8
87.5°	25.2	176.1	551.4	1174.4	1356.3
90°	1.9	92.9	392.8	921.0	1085.4
92.5°	1.9	44.5	276.7	696.5	822.3
95°	1.9	23.2	172.2	505.0	617.2
97.5°	1.9	13.5	104.5	357.9	452.7
100°	1.9	11.6	61.9	238.0	323.1
102.5°	1.9	13.5	42.6	150.9	210.9
105°	1.9	13.5	34.8	98.7	139.3
107.5°	3.9	13.5	31.0	73.5	96.7
110°	1.9	11.6	32.9	56.1	75.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.9	9.7	31.0	46.4	56.1
115°	1.9	7.7	27.1	44.5	46.4
117.5°	3.9	5.8	21.3	44.5	46.4
120°	3.9	3.9	17.4	42.6	48.4
122.5°	3.9	3.9	13.5	38.7	46.4
125°	1.9	3.9	11.6	29.0	40.6
127.5°	3.9	3.9	9.7	23.2	31.0
130°	3.9	3.9	7.7	17.4	23.2
132.5°	3.9	3.9	5.8	13.5	17.4
135°	3.9	3.9	3.9	9.7	13.5
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)