

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: P518295

Luminaire Tested: HVL8-8-LD4-3STD-50-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: P518295
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-50-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22612.0 lumens
Efficiency: N/A
Efficacy: 118.4 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

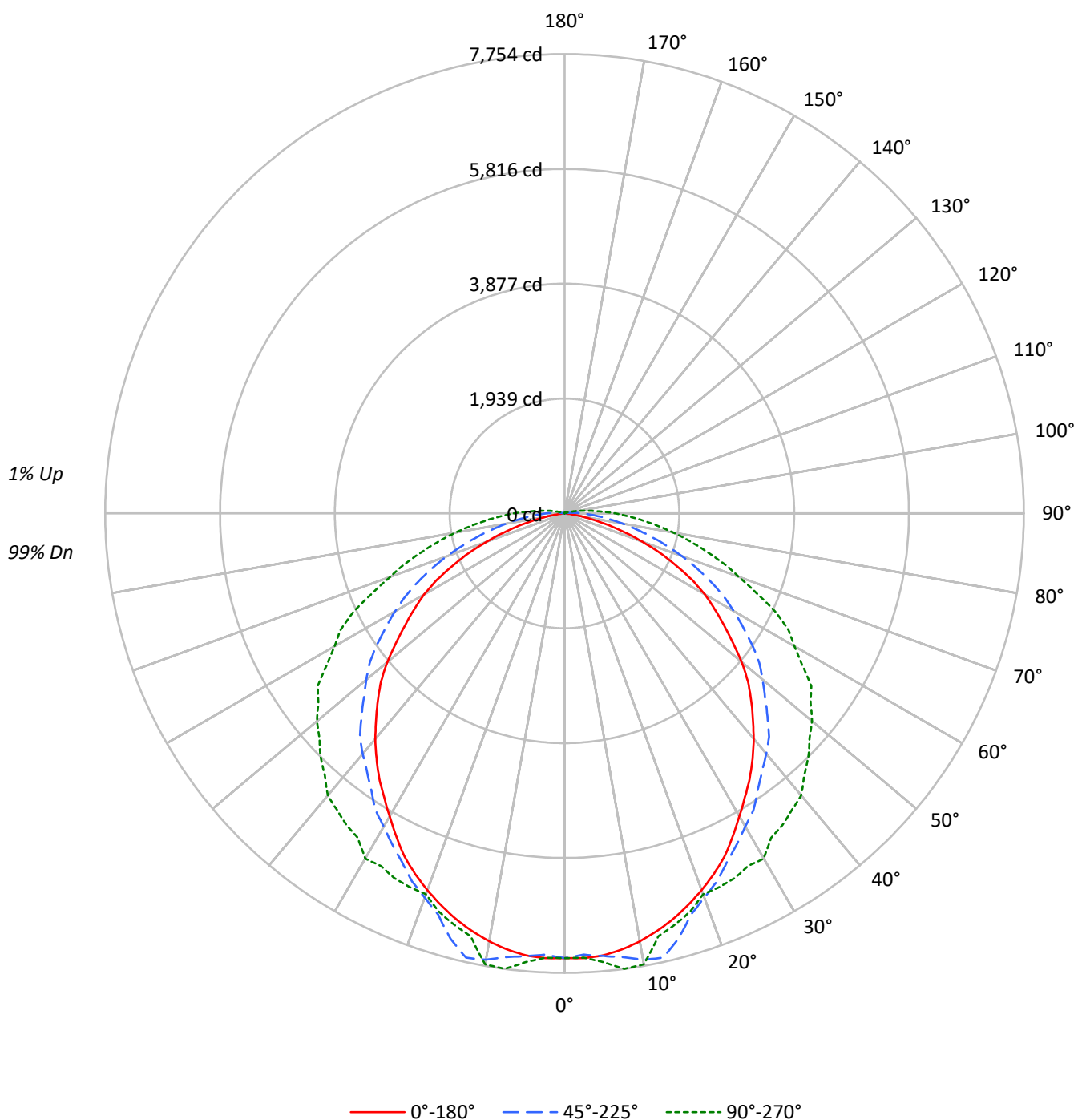
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	15149	15149	15149
5°	15142	14941	15075
10°	14970	15162	15168
15°	14726	14769	14078
20°	14422	13851	13464
25°	14099	13269	13548
30°	13594	12802	13698
35°	13244	12360	13455
40°	12867	12032	13539
45°	12462	11607	13294
50°	11964	11159	13193
55°	11217	10680	13186
60°	10663	10015	12623
65°	9499	9218	12220
70°	7834	8176	10959
75°	5686	6904	10004
80°	3290	5622	8981
85°	1315	4296	7911

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 13294 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	721.4	3.2
10°-20°	2054.4	9.1
20°-30°	3056.7	13.5
30°-40°	3674.2	16.2
40°-50°	3867.3	17.1
50°-60°	3588.4	15.9
60°-70°	2837.2	12.5
70°-80°	1733.1	7.7
80°-90°	755.1	3.3
90°-100°	235.1	1.0
100°-110°	52.8	0.2
110°-120°	21.2	0.1
120°-130°	11.9	0.1
130°-140°	3.2	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°	5832.5	25.8
0°-40°	9506.7	42.0
0°-60°	16962.3	75.0
0°-90°	22287.7	98.6
90°-120°	309.1	1.4
90°-150°	324.3	1.4
90°-180°	324.0	1.4
0°-180°	22612.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7506	7506	7506	7506	7506	
5°	7488	7472	7498	7582	7604	710
15°	7087	7359	7431	7185	7189	1996
25°	6393	6801	6491	6685	6793	2935
35°	5454	5605	5690	6206	6417	3409
45°	4457	4477	4846	5613	5822	3436
55°	3283	3336	3865	4711	5086	2950
65°	2078	2144	2723	3604	3931	2058
75°	786	1041	1518	2333	2480	858
85°	70	245	592	1148	1318	109
90°	2	73	310	728	858	3
95°	2	18	136	399	488	1
105°	2	11	28	78	110	2
115°	2	6	21	35	37	2
125°	2	3	9	23	32	2
135°	3	3	3	8	11	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°	7506.0	7506.0	7506.0	7506.0	7506.0
2.5°	7515.1	7495.3	7454.0	7493.7	7504.4
5°	7487.6	7472.3	7498.3	7582.4	7603.8
7.5°	7424.9	7483.0	7551.8	7704.7	7753.7
10°	7331.6	7441.7	7648.2	7778.1	7727.7
12.5°	7218.5	7405.0	7681.8	7428.0	7310.2
15°	7087.0	7359.2	7431.0	7184.9	7189.4
17.5°	6932.6	7320.9	7099.2	7093.1	7048.8
20°	6765.9	7192.5	6898.9	6886.7	6839.3
22.5°	6587.0	7022.8	6721.6	6697.1	6825.5
25°	6392.8	6801.1	6490.7	6684.9	6793.4
27.5°	6149.7	6510.6	6298.0	6573.3	6709.3
30°	5903.5	6210.9	6100.8	6484.6	6726.2
32.5°	5672.7	5897.4	5938.7	6450.9	6490.7
35°	5454.0	5605.4	5689.5	6206.3	6417.3
37.5°	5214.0	5255.2	5478.5	6103.8	6307.2
40°	4969.3	4943.3	5301.1	5935.7	6217.0
42.5°	4706.3	4697.1	5113.0	5851.6	5992.2
45°	4457.1	4477.0	4845.5	5613.0	5822.5
47.5°	4201.7	4227.7	4591.6	5351.6	5611.5
50°	3905.1	3938.8	4365.3	5119.2	5454.0
52.5°	3584.0	3648.2	4145.2	4899.0	5236.9
55°	3282.8	3336.3	3865.4	4710.9	5085.5
57.5°	3007.6	3039.7	3576.4	4473.9	4756.8
60°	2736.9	2744.6	3304.2	4210.9	4481.6
62.5°	2426.6	2440.3	3024.4	3900.5	4262.9
65°	2077.9	2143.7	2723.2	3603.9	3931.1
67.5°	1752.3	1866.9	2415.8	3331.7	3503.0
70°	1403.6	1597.8	2114.6	3012.2	3133.0
72.5°	1084.1	1311.9	1805.8	2654.4	2824.1
75°	785.9	1041.3	1518.3	2333.3	2480.1
77.5°	529.0	789.0	1249.2	1978.6	2172.7
80°	316.5	576.4	1009.2	1649.8	1868.5
82.5°	162.1	386.8	782.9	1383.8	1579.5
85°	70.3	244.6	591.7	1148.3	1318.0
87.5°	19.9	139.1	435.8	928.1	1071.8
90°	1.5	73.4	310.4	727.8	857.8
92.5°	1.5	35.2	218.6	550.4	649.8
95°	1.5	18.3	136.1	399.1	487.8
97.5°	1.5	10.7	82.6	282.9	357.8
100°	1.5	9.2	48.9	188.1	255.3
102.5°	1.5	10.7	33.6	119.3	166.7
105°	1.5	10.7	27.5	78.0	110.1
107.5°	3.1	10.7	24.5	58.1	76.5
110°	1.5	9.2	26.0	44.3	59.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.1	7.6	24.5	36.7	44.3
115°	1.5	6.1	21.4	35.2	36.7
117.5°	3.1	4.6	16.8	35.2	36.7
120°	3.1	3.1	13.8	33.6	38.2
122.5°	3.1	3.1	10.7	30.6	36.7
125°	1.5	3.1	9.2	22.9	32.1
127.5°	3.1	3.1	7.6	18.3	24.5
130°	3.1	3.1	6.1	13.8	18.3
132.5°	3.1	3.1	4.6	10.7	13.8
135°	3.1	3.1	3.1	7.6	10.7
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)