

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: P518292

Luminaire Tested: HVL8-8-LD4-3STD-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: P518292
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-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: 18682.0 lumens
Efficiency: N/A
Efficacy: 97.8 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

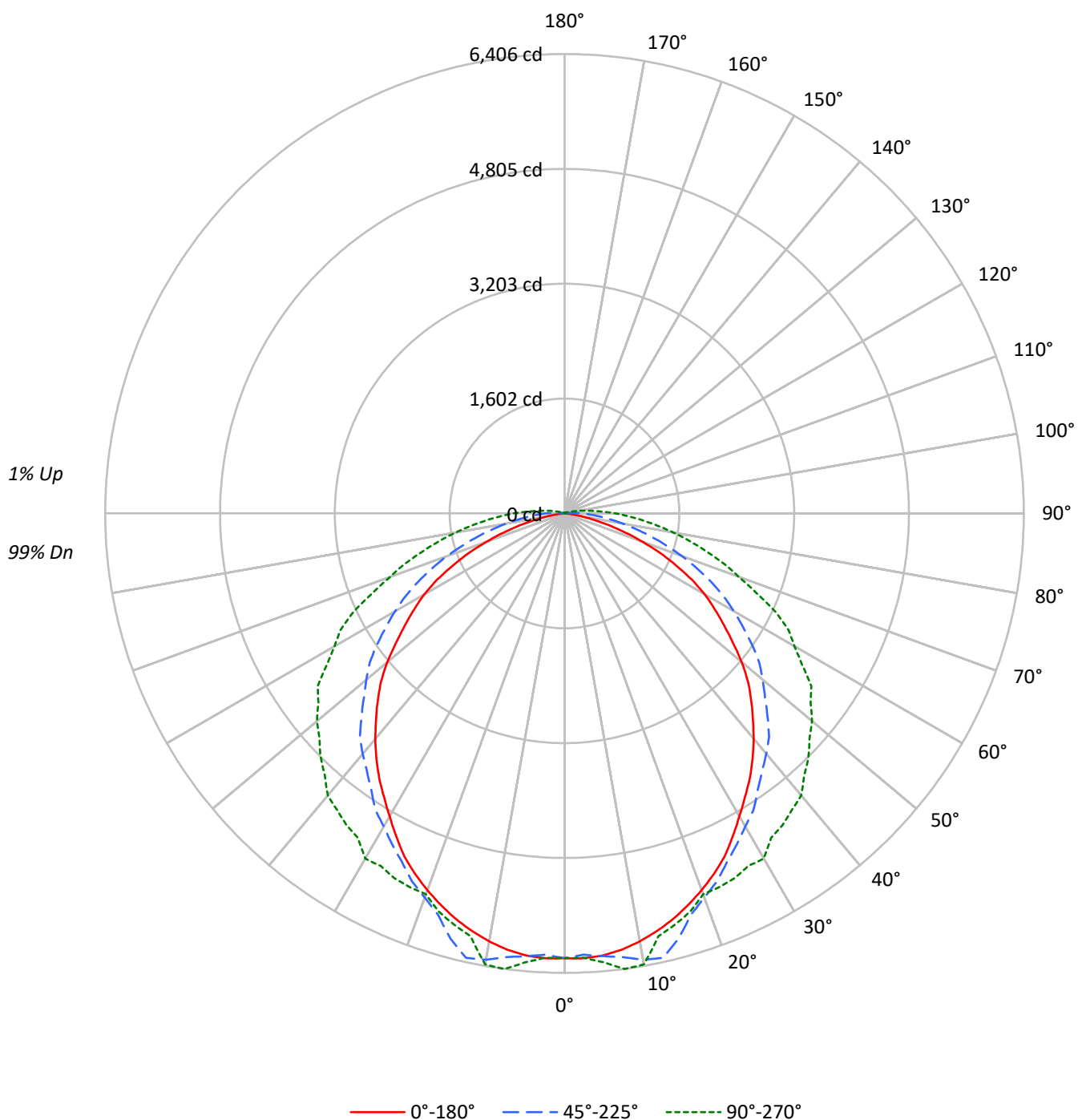
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	12516	12516	12516
5°	12510	12344	12455
10°	12368	12527	12532
15°	12166	12202	11632
20°	11916	11444	11124
25°	11649	10963	11194
30°	11232	10577	11317
35°	10943	10212	11117
40°	10631	9941	11186
45°	10296	9589	10984
50°	9885	9219	10900
55°	9268	8824	10894
60°	8810	8274	10429
65°	7848	7616	10096
70°	6473	6755	9054
75°	4698	5704	8265
80°	2718	4645	7420
85°	1087	3550	6536

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10984 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.0	3.2
10°-20°	1697.3	9.1
20°-30°	2525.4	13.5
30°-40°	3035.6	16.2
40°-50°	3195.1	17.1
50°-60°	2964.7	15.9
60°-70°	2344.1	12.5
70°-80°	1431.9	7.7
80°-90°	623.9	3.3
90°-100°	194.2	1.0
100°-110°	43.6	0.2
110°-120°	17.5	0.1
120°-130°	9.9	0.1
130°-140°	2.7	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°	4818.8	25.8
0°-40°	7854.4	42.0
0°-60°	14014.2	75.0
0°-90°	18414.1	98.6
90°-120°	255.4	1.4
90°-150°	267.9	1.4
90°-180°	268.0	1.4
0°-180°	18682.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6201	6201	6201	6201	6201	
5°	6186	6174	6195	6265	6282	586
15°	5855	6080	6140	5936	5940	1649
25°	5282	5619	5363	5523	5613	2425
35°	4506	4631	4701	5128	5302	2816
45°	3682	3699	4003	4638	4810	2839
55°	2712	2756	3194	3892	4202	2437
65°	1717	1771	2250	2978	3248	1700
75°	649	860	1254	1928	2049	709
85°	58	202	489	949	1089	90
90°	1	61	256	601	709	3
95°	1	15	112	330	403	1
105°	1	9	23	64	91	2
115°	1	5	18	29	30	2
125°	1	2	8	19	26	2
135°	2	2	2	6	9	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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6201.4	6201.4	6201.4	6201.4	6201.4
2.5°	6209.0	6192.6	6158.5	6191.3	6200.1
5°	6186.2	6173.6	6195.1	6264.6	6282.3
7.5°	6134.5	6182.5	6239.3	6365.6	6406.1
10°	6057.4	6148.4	6318.9	6426.3	6384.6
12.5°	5963.9	6118.0	6346.7	6137.0	6039.7
15°	5855.3	6080.1	6139.5	5936.1	5939.9
17.5°	5727.7	6048.6	5865.4	5860.3	5823.7
20°	5590.0	5942.4	5699.9	5689.8	5650.6
22.5°	5442.2	5802.2	5553.3	5533.1	5639.3
25°	5281.7	5619.0	5362.6	5523.0	5612.7
27.5°	5080.9	5379.0	5203.4	5430.8	5543.2
30°	4877.5	5131.4	5040.5	5357.5	5557.1
32.5°	4686.7	4872.4	4906.6	5329.7	5362.6
35°	4506.1	4631.2	4700.6	5127.6	5302.0
37.5°	4307.8	4341.9	4526.3	5043.0	5211.0
40°	4105.6	4084.2	4379.8	4904.0	5136.5
42.5°	3888.4	3880.8	4224.4	4834.5	4950.8
45°	3682.4	3698.9	4003.3	4637.5	4810.5
47.5°	3471.5	3493.0	3793.6	4421.5	4636.2
50°	3226.4	3254.2	3606.6	4229.4	4506.1
52.5°	2961.1	3014.2	3424.7	4047.5	4326.7
55°	2712.2	2756.5	3193.6	3892.1	4201.6
57.5°	2484.9	2511.4	2954.8	3696.3	3930.0
60°	2261.3	2267.6	2729.9	3479.1	3702.7
62.5°	2004.8	2016.2	2498.8	3222.6	3522.0
65°	1716.8	1771.1	2249.9	2977.5	3247.9
67.5°	1447.7	1542.5	1996.0	2752.7	2894.2
70°	1159.7	1320.1	1747.1	2488.6	2588.4
72.5°	895.7	1083.9	1491.9	2193.0	2333.3
75°	649.3	860.3	1254.4	1927.8	2049.0
77.5°	437.1	651.8	1032.1	1634.7	1795.1
80°	261.5	476.3	833.8	1363.1	1543.7
82.5°	133.9	319.6	646.8	1143.3	1305.0
85°	58.1	202.1	488.9	948.7	1088.9
87.5°	16.4	115.0	360.0	766.8	885.6
90°	1.3	60.6	256.4	601.3	708.7
92.5°	1.3	29.1	180.6	454.8	536.9
95°	1.3	15.2	112.4	329.7	403.0
97.5°	1.3	8.8	68.2	233.7	295.6
100°	1.3	7.6	40.4	155.4	211.0
102.5°	1.3	8.8	27.8	98.5	137.7
105°	1.3	8.8	22.7	64.4	91.0
107.5°	2.5	8.8	20.2	48.0	63.2
110°	1.3	7.6	21.5	36.6	49.3

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	6.3	20.2	30.3	36.6
115°	1.3	5.1	17.7	29.1	30.3
117.5°	2.5	3.8	13.9	29.1	30.3
120°	2.5	2.5	11.4	27.8	31.6
122.5°	2.5	2.5	8.8	25.3	30.3
125°	1.3	2.5	7.6	18.9	26.5
127.5°	2.5	2.5	6.3	15.2	20.2
130°	2.5	2.5	5.1	11.4	15.2
132.5°	2.5	2.5	3.8	8.8	11.4
135°	2.5	2.5	2.5	6.3	8.8
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)