

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: P518294

Luminaire Tested: HVL8-8-LD4-3STD-40-UNV-O-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: P518294
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-O-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: 16916.0 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

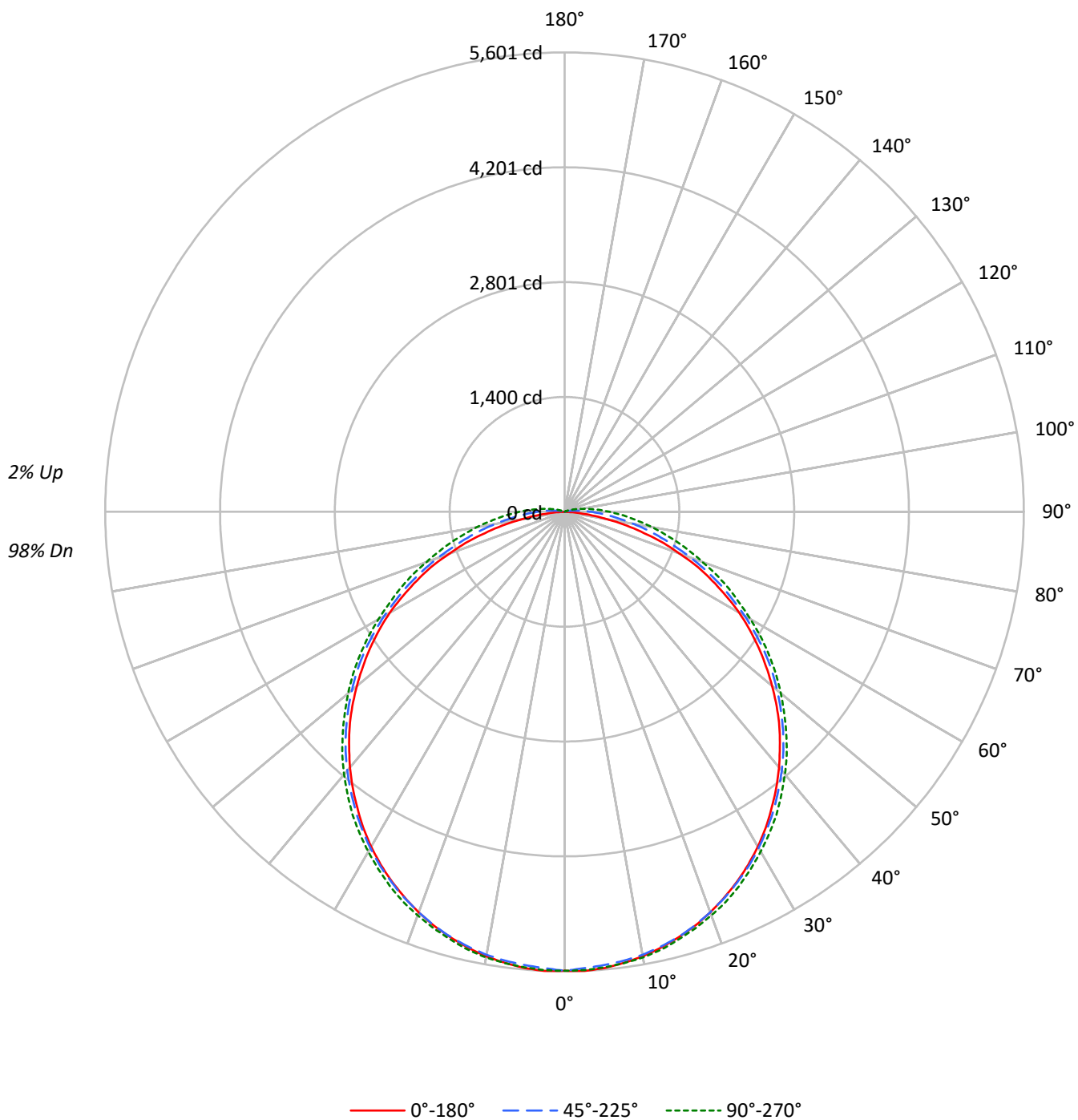
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			98
1	108	102	98	94	105	100	96	92	95	92	89	91	88	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	77	73	79	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	52	62	56	51	60	54	50			47
5	75	61	52	45	72	60	52	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	40	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°	11292	11292	11292
5°	11290	11053	11050
10°	11235	10869	10829
15°	11159	10663	10563
20°	11077	10431	10305
25°	10975	10192	10043
30°	10855	9936	9744
35°	10697	9653	9449
40°	10536	9355	9105
45°	10362	9029	8733
50°	10130	8651	8333
55°	9883	8235	7892
60°	9588	7691	7378
65°	9086	7081	6868
70°	8348	6359	6274
75°	7281	5565	5735
80°	5648	4790	5242
85°	3256	4012	4773

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 10362 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	529.4	3.1
10°-20°	1518.7	9.0
20°-30°	2304.3	13.6
30°-40°	2786.3	16.5
40°-50°	2907.3	17.2
50°-60°	2658.1	15.7
60°-70°	2072.2	12.2
70°-80°	1296.2	7.7
80°-90°	588.7	3.5
90°-100°	197.3	1.2
100°-110°	49.5	0.3
110°-120°	7.8	0.0
120°-130°	0.0	0.0
130°-140°	0.0	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°	4352.4	25.7
0°-40°	7138.8	42.2
0°-60°	12704.2	75.1
0°-90°	16661.3	98.5
90°-120°	254.7	1.5
90°-150°	254.7	1.5
90°-180°	255.0	1.5
0°-180°	16916.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5595	5595	5595	5595	5595	
5°	5583	5572	5547	5574	5574	530
15°	5371	5380	5365	5396	5394	1516
25°	4976	4980	4986	5028	5036	2293
35°	4405	4425	4443	4488	4507	2757
45°	3706	3739	3769	3806	3825	2856
55°	2892	2927	2981	3024	3044	2584
65°	1988	2022	2092	2175	2209	1967
75°	1006	1068	1224	1370	1422	1073
85°	174	322	553	731	795	220
90°	1	120	326	489	549	7
95°	1	32	169	306	354	1
105°	3	4	28	82	110	3
115°	4	4	5	14	21	3
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
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°	5594.8	5594.8	5594.8	5594.8	5594.8
2.5°	5601.4	5593.5	5568.4	5593.5	5592.2
5°	5582.9	5572.4	5547.3	5573.7	5573.7
7.5°	5546.0	5542.0	5519.6	5549.9	5549.9
10°	5502.5	5501.1	5482.7	5515.7	5517.0
12.5°	5441.8	5447.1	5429.9	5461.6	5465.5
15°	5370.6	5379.8	5365.3	5395.6	5394.3
17.5°	5292.8	5298.0	5287.5	5321.8	5320.5
20°	5196.5	5203.1	5195.2	5230.8	5234.7
22.5°	5089.7	5098.9	5097.6	5134.5	5145.0
25°	4976.2	4980.2	4985.5	5027.7	5035.6
27.5°	4850.9	4857.5	4866.8	4905.0	4912.9
30°	4713.8	4724.3	4734.9	4774.4	4785.0
32.5°	4568.7	4579.2	4592.4	4643.9	4649.1
35°	4405.1	4424.9	4443.4	4488.2	4506.7
37.5°	4241.6	4266.7	4283.8	4331.3	4345.8
40°	4068.8	4093.9	4121.6	4171.7	4180.9
42.5°	3888.1	3917.1	3950.1	3995.0	4010.8
45°	3706.1	3739.1	3769.4	3806.4	3824.8
47.5°	3509.6	3542.6	3579.5	3621.7	3633.6
50°	3306.5	3344.7	3384.3	3423.9	3445.0
52.5°	3098.1	3144.3	3189.1	3231.3	3251.1
55°	2892.4	2926.6	2980.7	3024.2	3044.0
57.5°	2678.7	2707.7	2756.5	2827.7	2838.3
60°	2461.1	2487.5	2537.6	2595.6	2619.3
62.5°	2221.0	2256.6	2309.4	2383.3	2404.4
65°	1987.6	2021.9	2091.8	2174.9	2209.2
67.5°	1762.1	1773.9	1863.6	1950.7	2006.1
70°	1495.6	1540.5	1644.7	1751.5	1793.7
72.5°	1266.1	1311.0	1425.7	1551.0	1603.8
75°	1006.3	1068.3	1223.9	1370.3	1421.8
77.5°	778.2	846.7	1039.3	1187.0	1246.4
80°	543.4	650.2	859.9	1026.1	1090.7
82.5°	341.6	473.5	697.7	871.8	928.5
85°	174.1	321.8	552.6	730.7	795.3
87.5°	46.2	208.4	430.0	600.1	666.0
90°	1.3	120.0	325.8	489.3	548.7
92.5°	1.3	67.3	242.7	389.1	449.7
95°	1.3	31.7	168.8	306.0	353.5
97.5°	1.3	13.2	116.1	230.8	278.3
100°	1.3	6.6	73.9	167.5	208.4
102.5°	2.6	4.0	46.2	120.0	153.0
105°	2.6	4.0	27.7	81.8	109.5
107.5°	2.6	4.0	15.8	55.4	75.2
110°	4.0	4.0	9.2	34.3	50.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.0	4.0	5.3	22.4	33.0
115°	4.0	4.0	5.3	14.5	21.1
117.5°	0.0	0.0	0.0	0.0	0.0
120°	0.0	0.0	0.0	0.0	0.0
122.5°	0.0	0.0	0.0	0.0	0.0
125°	0.0	0.0	0.0	0.0	0.0
127.5°	0.0	0.0	0.0	0.0	0.0
130°	0.0	0.0	0.0	0.0	0.0
132.5°	0.0	0.0	0.0	0.0	0.0
135°	0.0	0.0	0.0	0.0	0.0
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)