

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: P518289

Luminaire Tested: HVL8-8-LD4-3STD-35-UNV-O-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: P518289
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-35-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19934.0 lumens
Efficiency: N/A
Efficacy: 104.4 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

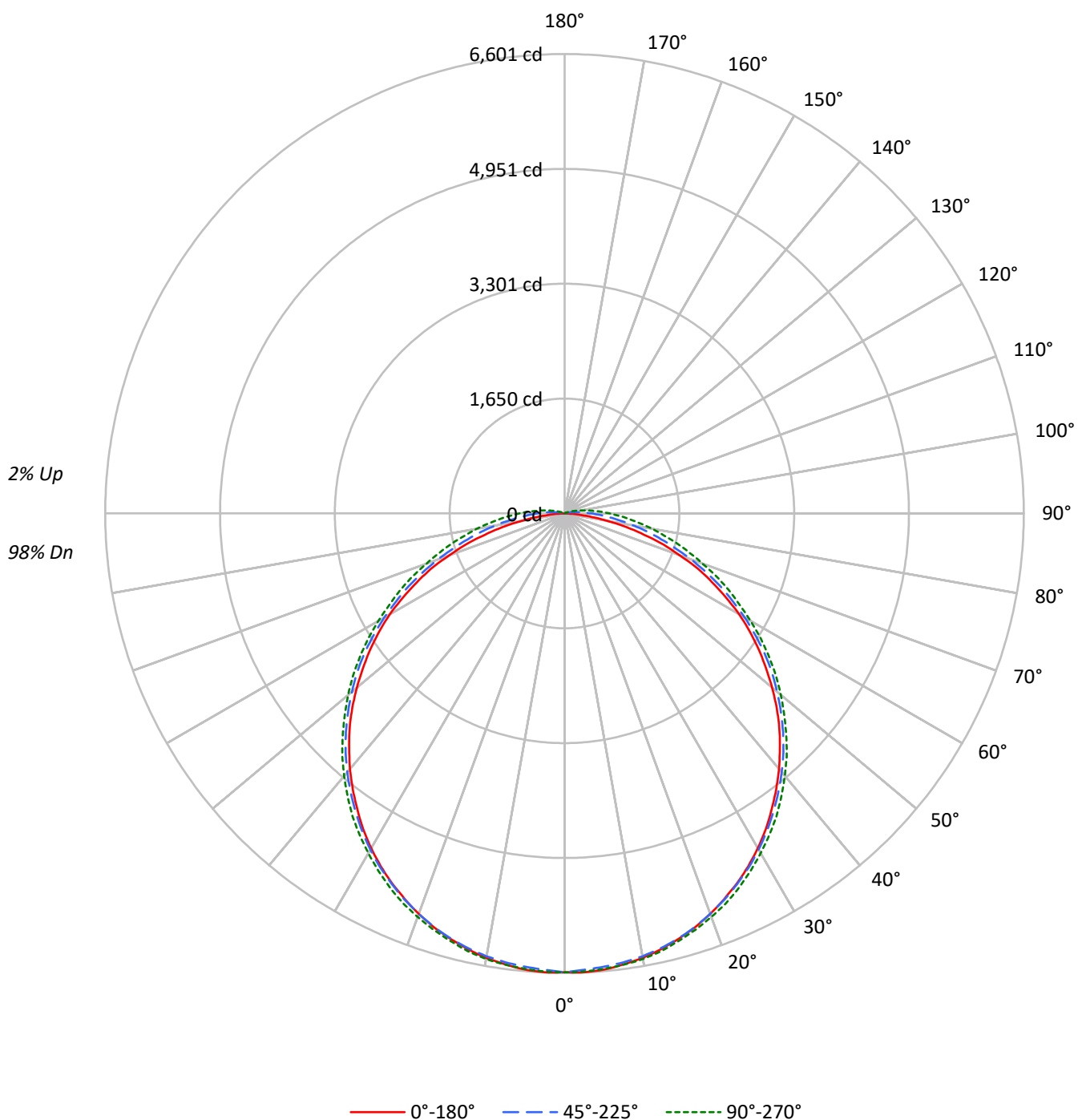
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	13306	13306	13306
5°	13304	13025	13022
10°	13240	12808	12761
15°	13150	12565	12448
20°	13053	12292	12144
25°	12933	12010	11834
30°	12791	11708	11483
35°	12606	11375	11135
40°	12415	11024	10729
45°	12211	10640	10291
50°	11938	10195	9820
55°	11646	9705	9301
60°	11299	9063	8694
65°	10707	8344	8093
70°	9837	7493	7393
75°	8580	6558	6758
80°	6655	5645	6178
85°	3838	4728	5625

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12211 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	623.9	3.1
10°-20°	1789.6	9.0
20°-30°	2715.4	13.6
30°-40°	3283.4	16.5
40°-50°	3426.0	17.2
50°-60°	3132.4	15.7
60°-70°	2441.9	12.2
70°-80°	1527.5	7.7
80°-90°	693.8	3.5
90°-100°	232.5	1.2
100°-110°	58.4	0.3
110°-120°	9.2	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°	5128.9	25.7
0°-40°	8412.4	42.2
0°-60°	14970.8	75.1
0°-90°	19633.9	98.5
90°-120°	300.1	1.5
90°-150°	300.1	1.5
90°-180°	300.0	1.5
0°-180°	19934.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6593	6593	6593	6593	6593	
5°	6579	6566	6537	6568	6568	625
15°	6329	6340	6322	6358	6357	1787
25°	5864	5869	5875	5925	5934	2702
35°	5191	5214	5236	5289	5311	3249
45°	4367	4406	4442	4486	4507	3365
55°	3408	3449	3512	3564	3587	3045
65°	2342	2383	2465	2563	2603	2317
75°	1186	1259	1442	1615	1675	1264
85°	205	379	651	861	937	260
90°	2	141	384	577	647	8
95°	2	37	199	361	416	1
105°	3	5	33	96	129	3
115°	5	5	6	17	25	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°	6593.0	6593.0	6593.0	6593.0	6593.0
2.5°	6600.7	6591.4	6561.9	6591.4	6589.9
5°	6579.0	6566.5	6537.0	6568.1	6568.1
7.5°	6535.5	6530.8	6504.4	6540.1	6540.1
10°	6484.2	6482.6	6460.9	6499.7	6501.3
12.5°	6412.7	6418.9	6398.7	6436.0	6440.7
15°	6328.7	6339.6	6322.5	6358.3	6356.7
17.5°	6237.0	6243.3	6230.8	6271.2	6269.7
20°	6123.6	6131.4	6122.0	6164.0	6168.7
22.5°	5997.7	6008.6	6007.0	6050.5	6063.0
25°	5864.0	5868.7	5874.9	5924.7	5934.0
27.5°	5716.4	5724.2	5735.0	5780.1	5789.4
30°	5554.8	5567.2	5579.6	5626.2	5638.7
32.5°	5383.8	5396.2	5411.8	5472.4	5478.6
35°	5191.1	5214.4	5236.1	5289.0	5310.7
37.5°	4998.3	5027.9	5048.1	5104.0	5121.1
40°	4794.7	4824.3	4856.9	4916.0	4926.8
42.5°	4581.8	4616.0	4654.9	4707.7	4726.4
45°	4367.3	4406.2	4441.9	4485.5	4507.2
47.5°	4135.8	4174.6	4218.1	4267.9	4281.9
50°	3896.4	3941.5	3988.1	4034.7	4059.6
52.5°	3650.8	3705.2	3758.1	3807.8	3831.1
55°	3408.4	3448.8	3512.5	3563.8	3587.1
57.5°	3156.6	3190.8	3248.3	3332.2	3344.7
60°	2900.2	2931.2	2990.3	3058.7	3086.7
62.5°	2617.3	2659.3	2721.4	2808.5	2833.3
65°	2342.2	2382.6	2465.0	2562.9	2603.3
67.5°	2076.4	2090.4	2196.1	2298.7	2364.0
70°	1762.5	1815.3	1938.1	2064.0	2113.7
72.5°	1492.0	1544.9	1680.1	1827.8	1889.9
75°	1185.9	1258.9	1442.3	1614.8	1675.4
77.5°	917.0	997.8	1224.7	1398.8	1468.7
80°	640.3	766.2	1013.3	1209.2	1285.3
82.5°	402.5	558.0	822.2	1027.3	1094.2
85°	205.2	379.2	651.2	861.0	937.2
87.5°	54.4	245.6	506.7	707.2	784.9
90°	1.6	141.4	383.9	576.6	646.6
92.5°	1.6	79.3	286.0	458.5	530.0
95°	1.6	37.3	198.9	360.6	416.5
97.5°	1.6	15.5	136.8	272.0	327.9
100°	1.6	7.8	87.0	197.4	245.6
102.5°	3.1	4.7	54.4	141.4	180.3
105°	3.1	4.7	32.6	96.4	129.0
107.5°	3.1	4.7	18.7	65.3	88.6
110°	4.7	4.7	10.9	40.4	59.1

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	4.7	4.7	6.2	26.4	38.9
115°	4.7	4.7	6.2	17.1	24.9
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)