

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: P518288

Luminaire Tested: HVL8-8-LD4-3STD-35-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: P518288
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-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18421.0 lumens
Efficiency: N/A
Efficacy: 96.4 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

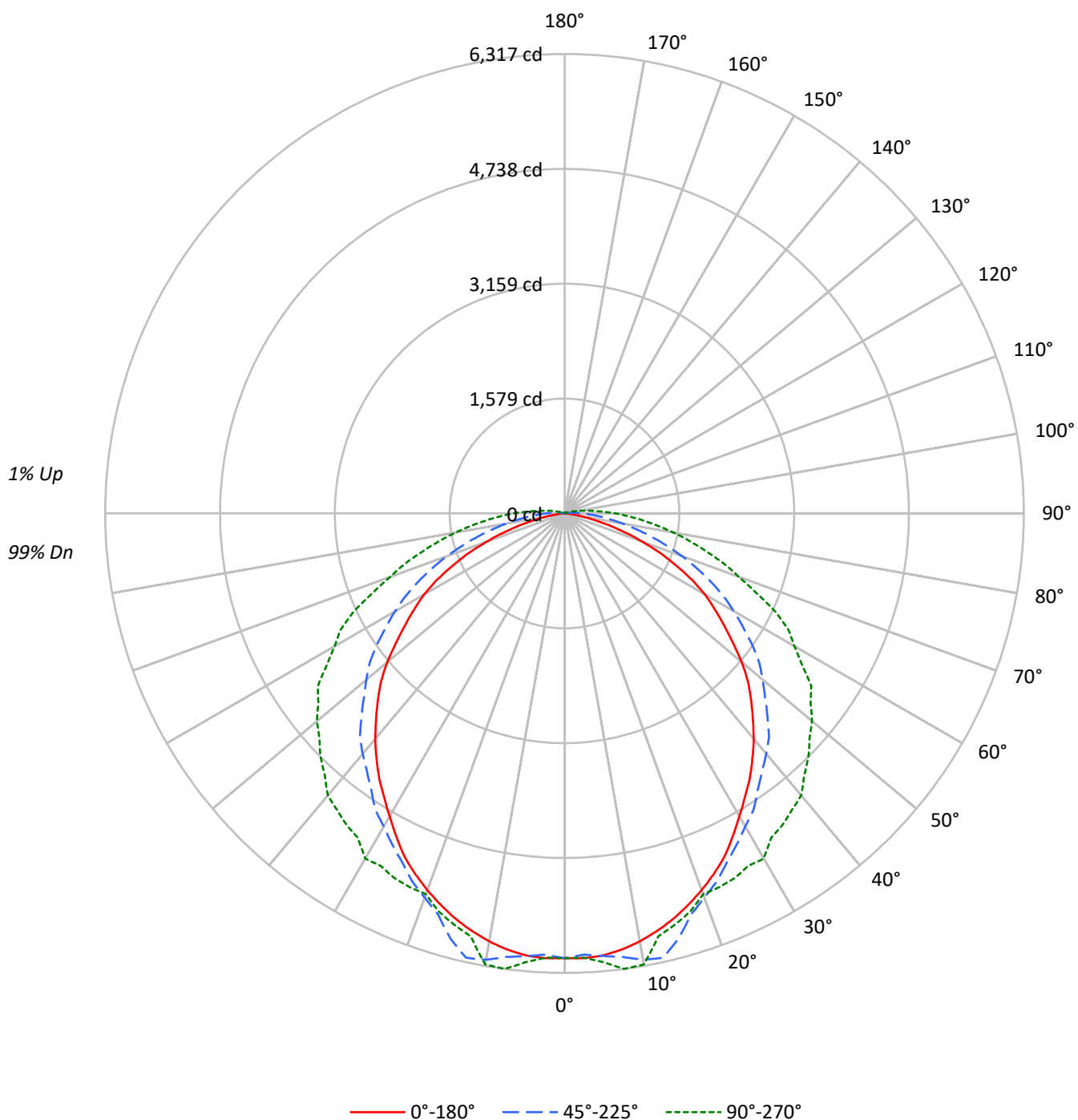
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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				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°	12341	12341	12341
5°	12335	12172	12281
10°	12196	12352	12357
15°	11996	12031	11469
20°	11749	11284	10968
25°	11486	10810	11037
30°	11075	10429	11159
35°	10790	10069	10961
40°	10482	9802	11029
45°	10152	9456	10830
50°	9747	9091	10748
55°	9138	8700	10742
60°	8687	8159	10283
65°	7738	7510	9955
70°	6382	6660	8928
75°	4633	5624	8150
80°	2680	4580	7316
85°	1072	3500	6444

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10830 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	587.7	3.2
10°-20°	1673.6	9.1
20°-30°	2490.2	13.5
30°-40°	2993.2	16.2
40°-50°	3150.5	17.1
50°-60°	2923.3	15.9
60°-70°	2311.4	12.5
70°-80°	1411.9	7.7
80°-90°	615.1	3.3
90°-100°	191.5	1.0
100°-110°	43.0	0.2
110°-120°	17.3	0.1
120°-130°	9.7	0.1
130°-140°	2.6	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°	4751.5	25.8
0°-40°	7744.7	42.0
0°-60°	13818.5	75.0
0°-90°	18156.8	98.6
90°-120°	251.8	1.4
90°-150°	264.1	1.4
90°-180°	264.0	1.4
0°-180°	18421.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6115	6115	6115	6115	6115	
5°	6100	6087	6108	6177	6194	578
15°	5774	5995	6054	5853	5857	1626
25°	5208	5540	5288	5446	5534	2391
35°	4443	4566	4635	5056	5228	2777
45°	3631	3647	3947	4573	4743	2799
55°	2674	2718	3149	3838	4143	2403
65°	1693	1746	2218	2936	3202	1677
75°	640	848	1237	1901	2020	699
85°	57	199	482	936	1074	89
90°	1	60	253	593	699	3
95°	1	15	111	325	397	1
105°	1	9	22	64	90	2
115°	1	5	17	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°	6114.8	6114.8	6114.8	6114.8	6114.8
2.5°	6122.2	6106.1	6072.4	6104.8	6113.5
5°	6099.8	6087.4	6108.5	6177.1	6194.5
7.5°	6048.8	6096.1	6152.1	6276.7	6316.6
10°	5972.8	6062.5	6230.6	6336.5	6295.4
12.5°	5880.6	6032.6	6258.0	6051.2	5955.3
15°	5773.5	5995.2	6053.7	5853.2	5856.9
17.5°	5647.7	5964.0	5783.4	5778.5	5742.3
20°	5511.9	5859.4	5620.3	5610.3	5571.7
22.5°	5366.1	5721.2	5475.8	5455.8	5560.5
25°	5208.0	5540.5	5287.7	5445.9	5534.3
27.5°	5009.9	5303.9	5130.7	5354.9	5465.8
30°	4809.4	5059.7	4970.0	5282.7	5479.5
32.5°	4621.3	4804.4	4838.0	5255.3	5287.7
35°	4443.1	4566.5	4635.0	5056.0	5227.9
37.5°	4247.6	4281.2	4463.1	4972.5	5138.2
40°	4048.3	4027.1	4318.6	4835.5	5064.7
42.5°	3834.0	3826.6	4165.4	4767.0	4881.6
45°	3631.0	3647.2	3947.4	4572.7	4743.3
47.5°	3423.0	3444.2	3740.6	4359.7	4571.4
50°	3181.3	3208.7	3556.3	4170.4	4443.1
52.5°	2919.7	2972.1	3376.9	3991.0	4266.3
55°	2674.4	2718.0	3148.9	3837.8	4142.9
57.5°	2450.1	2476.3	2913.5	3644.7	3875.1
60°	2229.7	2235.9	2691.8	3430.4	3650.9
62.5°	1976.8	1988.0	2463.8	3177.6	3472.8
65°	1692.8	1746.4	2218.5	2935.9	3202.5
67.5°	1427.5	1520.9	1968.1	2714.2	2853.7
70°	1143.5	1301.7	1722.7	2453.9	2552.3
72.5°	883.1	1068.7	1471.1	2162.4	2300.7
75°	640.3	848.3	1236.9	1900.8	2020.4
77.5°	431.0	642.7	1017.7	1611.8	1770.0
80°	257.8	469.6	822.1	1344.0	1522.2
82.5°	132.0	315.1	637.8	1127.3	1286.7
85°	57.3	199.3	482.1	935.5	1073.7
87.5°	16.2	113.4	355.0	756.1	873.2
90°	1.2	59.8	252.9	592.9	698.8
92.5°	1.2	28.6	178.1	448.4	529.4
95°	1.2	14.9	110.9	325.1	397.4
97.5°	1.2	8.7	67.3	230.4	291.5
100°	1.2	7.5	39.9	153.2	208.0
102.5°	1.2	8.7	27.4	97.2	135.8
105°	1.2	8.7	22.4	63.5	89.7
107.5°	2.5	8.7	19.9	47.3	62.3
110°	1.2	7.5	21.2	36.1	48.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	6.2	19.9	29.9	36.1
115°	1.2	5.0	17.4	28.6	29.9
117.5°	2.5	3.7	13.7	28.6	29.9
120°	2.5	2.5	11.2	27.4	31.1
122.5°	2.5	2.5	8.7	24.9	29.9
125°	1.2	2.5	7.5	18.7	26.2
127.5°	2.5	2.5	6.2	14.9	19.9
130°	2.5	2.5	5.0	11.2	14.9
132.5°	2.5	2.5	3.7	8.7	11.2
135°	2.5	2.5	2.5	6.2	8.7
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)