

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: P518284

Luminaire Tested: HVL8-8-LD4-3STD-30-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: P518284
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3STD-30-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18178.0 lumens
Efficiency: N/A
Efficacy: 95.2 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

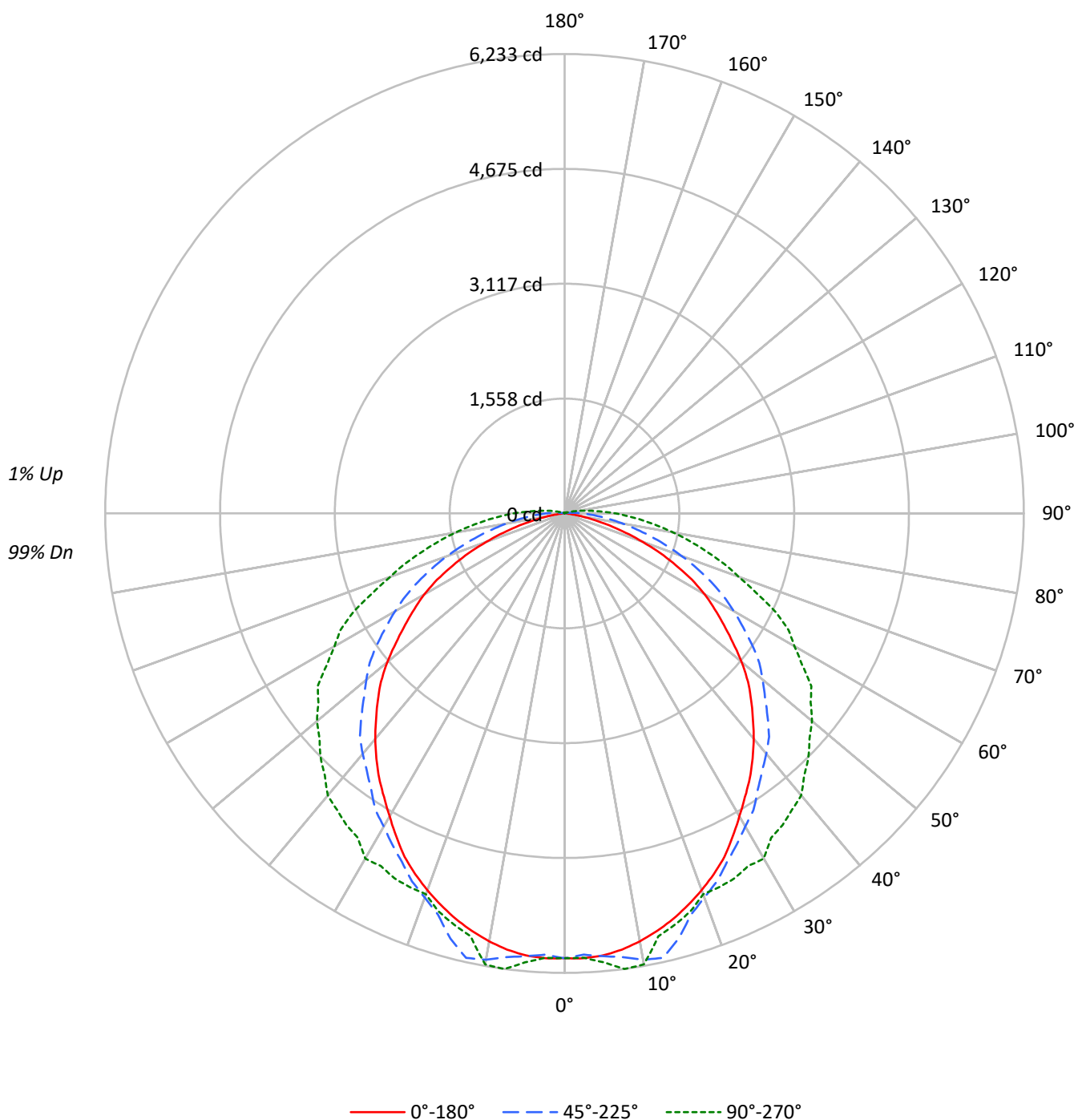
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	12178	12178	12178
5°	12173	12011	12119
10°	12035	12189	12194
15°	11838	11873	11318
20°	11594	11135	10824
25°	11334	10667	10892
30°	10929	10292	11012
35°	10647	9936	10817
40°	10344	9673	10884
45°	10018	9331	10688
50°	9618	8971	10606
55°	9018	8585	10600
60°	8572	8051	10148
65°	7636	7411	9824
70°	6298	6573	8810
75°	4571	5550	8042
80°	2644	4520	7220
85°	1057	3454	6360

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10688 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	579.9	3.2
10°-20°	1651.5	9.1
20°-30°	2457.3	13.5
30°-40°	2953.7	16.2
40°-50°	3108.9	17.1
50°-60°	2884.7	15.9
60°-70°	2280.9	12.5
70°-80°	1393.3	7.7
80°-90°	607.0	3.3
90°-100°	189.0	1.0
100°-110°	42.5	0.2
110°-120°	17.1	0.1
120°-130°	9.6	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°	4688.8	25.8
0°-40°	7642.5	42.0
0°-60°	13636.1	75.0
0°-90°	17917.3	98.6
90°-120°	248.5	1.4
90°-150°	260.7	1.4
90°-180°	261.0	1.4
0°-180°	18178.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6034	6034	6034	6034	6034	
5°	6019	6007	6028	6096	6113	570
15°	5697	5916	5974	5776	5780	1605
25°	5139	5467	5218	5374	5461	2359
35°	4384	4506	4574	4989	5159	2740
45°	3583	3599	3895	4512	4681	2762
55°	2639	2682	3107	3787	4088	2371
65°	1670	1723	2189	2897	3160	1654
75°	632	837	1221	1876	1994	690
85°	56	197	476	923	1060	87
90°	1	59	250	585	690	3
95°	1	15	109	321	392	1
105°	1	9	22	63	88	2
115°	1	5	17	28	30	2
125°	1	2	7	18	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°	6034.1	6034.1	6034.1	6034.1	6034.1
2.5°	6041.5	6025.5	5992.3	6024.3	6032.9
5°	6019.4	6007.1	6028.0	6095.6	6112.8
7.5°	5969.0	6015.7	6071.0	6193.9	6233.2
10°	5894.0	5982.5	6148.4	6252.9	6212.3
12.5°	5803.0	5953.0	6175.5	5971.4	5876.8
15°	5697.3	5916.1	5973.9	5776.0	5779.7
17.5°	5573.2	5885.4	5707.1	5702.2	5666.6
20°	5439.2	5782.1	5546.1	5536.3	5498.2
22.5°	5295.4	5645.7	5403.5	5383.9	5487.1
25°	5139.3	5467.4	5217.9	5374.0	5461.3
27.5°	4943.8	5233.9	5063.0	5284.3	5393.7
30°	4745.9	4993.0	4904.5	5213.0	5407.2
32.5°	4560.3	4741.0	4774.2	5186.0	5217.9
35°	4384.5	4506.2	4573.8	4989.3	5158.9
37.5°	4191.5	4224.7	4404.2	4906.9	5070.4
40°	3994.9	3974.0	4261.6	4771.7	4997.9
42.5°	3783.5	3776.1	4110.4	4704.1	4817.2
45°	3583.1	3599.1	3895.3	4512.4	4680.8
47.5°	3377.8	3398.7	3691.3	4302.2	4511.1
50°	3139.4	3166.4	3509.3	4115.3	4384.5
52.5°	2881.2	2932.9	3332.3	3938.3	4210.0
55°	2639.1	2682.1	3107.4	3787.1	4088.3
57.5°	2417.8	2443.6	2875.1	3596.6	3824.0
60°	2200.3	2206.4	2656.3	3385.2	3602.8
62.5°	1950.7	1961.8	2431.3	3135.7	3427.0
65°	1670.5	1723.3	2189.2	2897.2	3160.3
67.5°	1408.7	1500.8	1942.1	2678.4	2816.1
70°	1128.4	1284.5	1700.0	2421.5	2518.6
72.5°	871.5	1054.6	1451.7	2133.9	2270.3
75°	631.8	837.1	1220.6	1875.7	1993.8
77.5°	425.3	634.3	1004.3	1590.6	1746.7
80°	254.4	463.4	811.3	1326.3	1502.1
82.5°	130.3	311.0	629.3	1112.4	1269.8
85°	56.5	196.7	475.7	923.1	1059.6
87.5°	16.0	111.9	350.3	746.1	861.7
90°	1.2	59.0	249.5	585.1	689.6
92.5°	1.2	28.3	175.8	442.5	522.4
95°	1.2	14.8	109.4	320.8	392.1
97.5°	1.2	8.6	66.4	227.4	287.6
100°	1.2	7.4	39.3	151.2	205.3
102.5°	1.2	8.6	27.0	95.9	134.0
105°	1.2	8.6	22.1	62.7	88.5
107.5°	2.5	8.6	19.7	46.7	61.5
110°	1.2	7.4	20.9	35.6	47.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	6.1	19.7	29.5	35.6
115°	1.2	4.9	17.2	28.3	29.5
117.5°	2.5	3.7	13.5	28.3	29.5
120°	2.5	2.5	11.1	27.0	30.7
122.5°	2.5	2.5	8.6	24.6	29.5
125°	1.2	2.5	7.4	18.4	25.8
127.5°	2.5	2.5	6.1	14.8	19.7
130°	2.5	2.5	4.9	11.1	14.8
132.5°	2.5	2.5	3.7	8.6	11.1
135°	2.5	2.5	2.5	6.1	8.6
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)