

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: P518264

Luminaire Tested: HVL8-8-LD4-3HI-50-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: P518264
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-50-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25316.0 lumens
Efficiency: N/A
Efficacy: 100.5 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

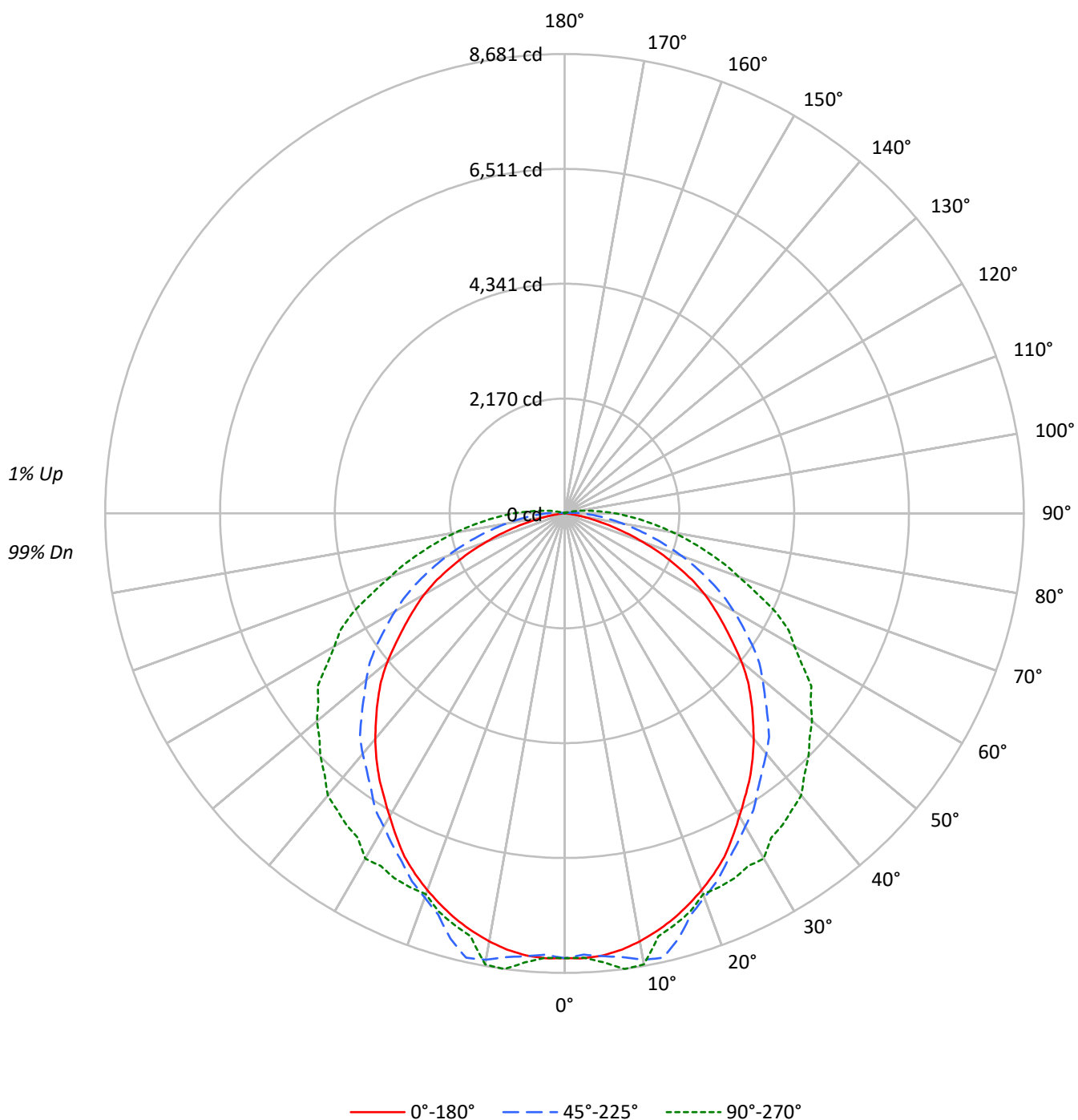
Input Watts (W): 251.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	16960	16960	16960
5°	16953	16727	16878
10°	16760	16975	16982
15°	16487	16535	15762
20°	16147	15508	15074
25°	15785	14856	15169
30°	15220	14333	15336
35°	14828	13838	15064
40°	14406	13471	15158
45°	13952	12995	14884
50°	13395	12494	14771
55°	12559	11957	14763
60°	11938	11212	14132
65°	10635	10320	13682
70°	8771	9153	12269
75°	6366	7730	11200
80°	3684	6294	10055
85°	1472	4810	8857

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 14884 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	807.7	3.2
10°-20°	2300.1	9.1
20°-30°	3422.2	13.5
30°-40°	4113.5	16.2
40°-50°	4329.7	17.1
50°-60°	4017.5	15.9
60°-70°	3176.5	12.5
70°-80°	1940.3	7.7
80°-90°	845.4	3.3
90°-100°	263.2	1.0
100°-110°	59.1	0.2
110°-120°	23.8	0.1
120°-130°	13.4	0.1
130°-140°	3.6	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°	6530.0	25.8
0°-40°	10643.5	42.0
0°-60°	18990.7	75.0
0°-90°	24953.0	98.6
90°-120°	346.1	1.4
90°-150°	363.0	1.4
90°-180°	363.0	1.4
0°-180°	25316.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8404	8404	8404	8404	8404	
5°	8383	8366	8395	8489	8513	794
15°	7934	8239	8320	8044	8049	2235
25°	7157	7614	7267	7484	7606	3286
35°	6106	6276	6370	6948	7185	3816
45°	4990	5012	5425	6284	6519	3847
55°	3675	3735	4328	5274	5694	3302
65°	2326	2400	3049	4035	4401	2304
75°	880	1166	1700	2612	2777	960
85°	79	274	662	1286	1476	122
90°	2	82	348	815	960	4
95°	2	20	152	447	546	1
105°	2	12	31	87	123	2
115°	2	7	24	39	41	3
125°	2	3	10	26	36	3
135°	3	3	3	9	12	2
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°	8403.5	8403.5	8403.5	8403.5	8403.5
2.5°	8413.8	8391.6	8345.3	8389.8	8401.8
5°	8383.0	8365.9	8395.0	8489.1	8513.1
7.5°	8312.8	8377.9	8454.9	8626.1	8680.9
10°	8208.4	8331.6	8562.7	8708.2	8651.8
12.5°	8081.7	8290.6	8600.4	8316.2	8184.4
15°	7934.5	8239.2	8319.7	8044.0	8049.2
17.5°	7761.6	8196.4	7948.2	7941.3	7891.7
20°	7575.0	8052.6	7723.9	7710.2	7657.2
22.5°	7374.7	7862.6	7525.3	7498.0	7641.8
25°	7157.3	7614.4	7266.9	7484.3	7605.8
27.5°	6885.1	7289.1	7051.2	7359.3	7511.7
30°	6609.5	6953.6	6830.3	7260.0	7530.5
32.5°	6351.0	6602.7	6648.9	7222.3	7266.9
35°	6106.2	6275.7	6369.8	6948.5	7184.7
37.5°	5837.5	5883.7	6133.6	6833.8	7061.4
40°	5563.6	5534.5	5935.0	6645.5	6960.4
42.5°	5269.1	5258.8	5724.5	6551.3	6708.8
45°	4990.1	5012.3	5424.9	6284.2	6518.8
47.5°	4704.2	4733.3	5140.7	5991.5	6282.5
50°	4372.1	4409.8	4887.4	5731.3	6106.2
52.5°	4012.6	4084.5	4640.9	5484.8	5863.1
55°	3675.4	3735.3	4327.6	5274.2	5693.7
57.5°	3367.2	3403.2	4004.0	5008.9	5325.6
60°	3064.2	3072.8	3699.3	4714.5	5017.5
62.5°	2716.7	2732.1	3386.1	4367.0	4772.7
65°	2326.4	2400.0	3048.8	4034.9	4401.2
67.5°	1961.8	2090.2	2704.7	3730.1	3921.9
70°	1571.5	1788.9	2367.5	3372.4	3507.6
72.5°	1213.7	1468.8	2021.7	2971.8	3161.8
75°	879.9	1165.8	1699.9	2612.3	2776.6
77.5°	592.3	883.3	1398.6	2215.2	2432.6
80°	354.4	645.4	1129.8	1847.1	2091.9
82.5°	181.5	433.1	876.5	1549.2	1768.4
85°	78.7	273.9	662.5	1285.6	1475.6
87.5°	22.3	155.8	487.9	1039.1	1200.0
90°	1.7	82.2	347.5	814.8	960.4
92.5°	1.7	39.4	244.8	616.3	727.5
95°	1.7	20.5	152.4	446.8	546.1
97.5°	1.7	12.0	92.4	316.7	400.6
100°	1.7	10.3	54.8	210.6	285.9
102.5°	1.7	12.0	37.7	133.5	186.6
105°	1.7	12.0	30.8	87.3	123.3
107.5°	3.4	12.0	27.4	65.1	85.6
110°	1.7	10.3	29.1	49.6	66.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.4	8.6	27.4	41.1	49.6
115°	1.7	6.8	24.0	39.4	41.1
117.5°	3.4	5.1	18.8	39.4	41.1
120°	3.4	3.4	15.4	37.7	42.8
122.5°	3.4	3.4	12.0	34.2	41.1
125°	1.7	3.4	10.3	25.7	35.9
127.5°	3.4	3.4	8.6	20.5	27.4
130°	3.4	3.4	6.8	15.4	20.5
132.5°	3.4	3.4	5.1	12.0	15.4
135°	3.4	3.4	3.4	8.6	12.0
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)