

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: P518267

Luminaire Tested: HVL8-8-LD4-3LO-30-UNV-C-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: P518267
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3LO-30-UNV-C-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16283.0 lumens
Efficiency: N/A
Efficacy: 120.8 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

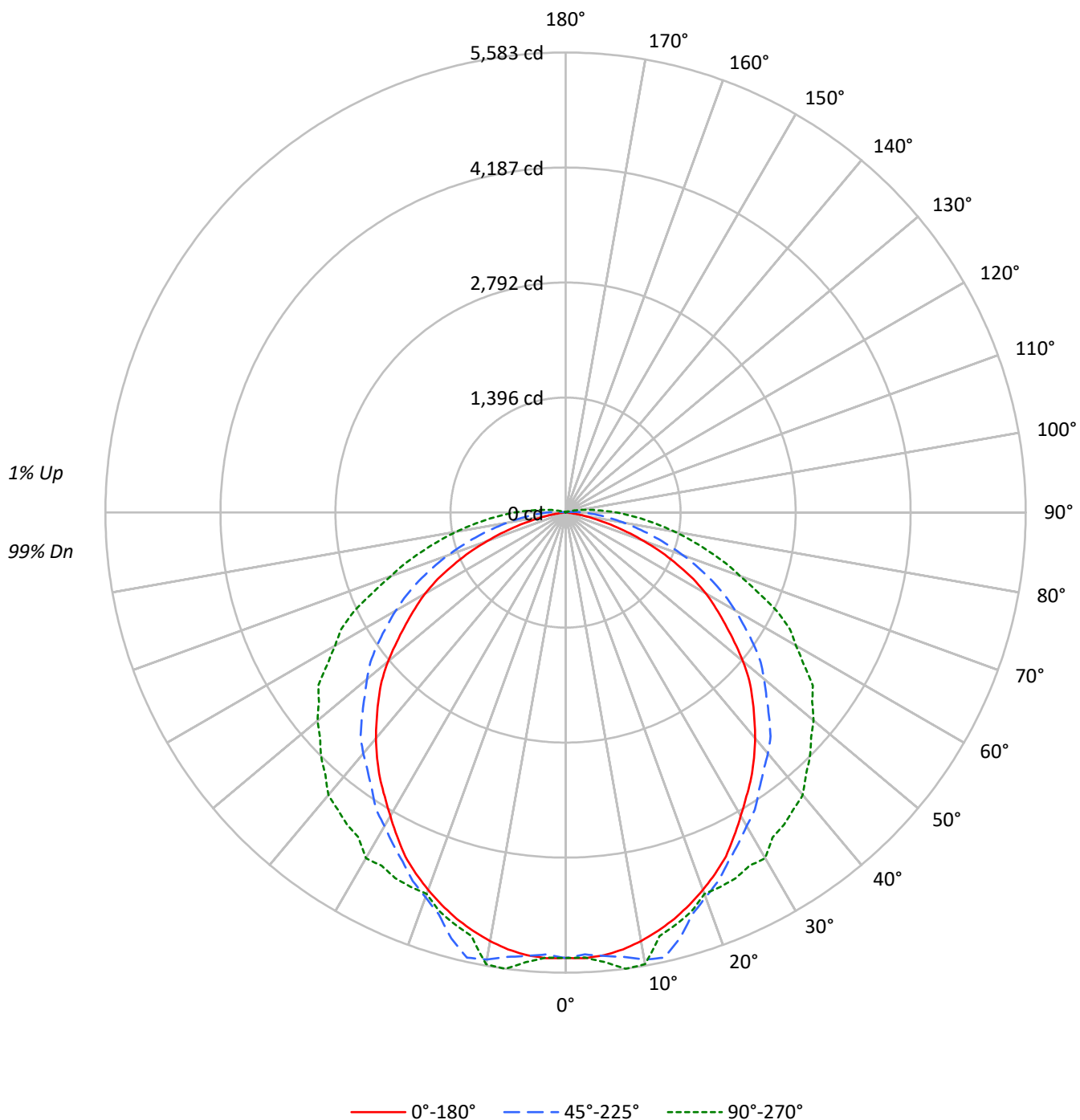
Input Watts (W): 134.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	10909	10909	10909
5°	10904	10759	10856
10°	10780	10918	10923
15°	10604	10635	10138
20°	10386	9975	9695
25°	10153	9555	9756
30°	9789	9219	9864
35°	9537	8900	9689
40°	9266	8665	9749
45°	8974	8358	9573
50°	8616	8036	9500
55°	8078	7690	9495
60°	7678	7212	9090
65°	6840	6638	8800
70°	5642	5888	7892
75°	4094	4971	7204
80°	2369	4048	6467
85°	946	3094	5697

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 9573 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	519.5	3.2
10°-20°	1479.4	9.1
20°-30°	2201.1	13.5
30°-40°	2645.8	16.2
40°-50°	2784.8	17.1
50°-60°	2584.0	15.9
60°-70°	2043.1	12.5
70°-80°	1248.0	7.7
80°-90°	543.7	3.3
90°-100°	169.3	1.0
100°-110°	38.0	0.2
110°-120°	15.3	0.1
120°-130°	8.6	0.1
130°-140°	2.3	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°	4200.0	25.8
0°-40°	6845.8	42.0
0°-60°	12214.6	75.0
0°-90°	16049.5	98.6
90°-120°	222.6	1.4
90°-150°	233.5	1.4
90°-180°	233.0	1.4
0°-180°	16283.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5405	5405	5405	5405	5405	
5°	5392	5381	5400	5460	5476	511
15°	5103	5299	5351	5174	5177	1438
25°	4604	4898	4674	4814	4892	2113
35°	3928	4036	4097	4469	4621	2455
45°	3210	3224	3489	4042	4193	2474
55°	2364	2402	2784	3392	3662	2124
65°	1496	1544	1961	2595	2831	1482
75°	566	750	1093	1680	1786	618
85°	51	176	426	827	949	78
90°	1	53	224	524	618	2
95°	1	13	98	287	351	1
105°	1	8	20	56	79	1
115°	1	4	15	25	26	2
125°	1	2	7	16	23	2
135°	2	2	2	6	8	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°	5405.1	5405.1	5405.1	5405.1	5405.1
2.5°	5411.7	5397.4	5367.6	5396.3	5404.0
5°	5391.9	5380.8	5399.6	5460.1	5475.5
7.5°	5346.7	5388.6	5438.1	5548.2	5583.4
10°	5279.6	5358.8	5507.5	5601.1	5564.7
12.5°	5198.1	5332.4	5531.7	5348.9	5264.1
15°	5103.4	5299.4	5351.1	5173.8	5177.2
17.5°	4992.2	5271.8	5112.2	5107.8	5075.9
20°	4872.2	5179.4	4968.0	4959.1	4925.0
22.5°	4743.3	5057.1	4840.2	4822.6	4915.1
25°	4603.5	4897.5	4674.0	4813.8	4892.0
27.5°	4428.4	4688.3	4535.2	4733.4	4831.4
30°	4251.2	4472.5	4393.2	4669.6	4843.5
32.5°	4084.9	4246.8	4276.5	4645.3	4674.0
35°	3927.5	4036.5	4097.0	4469.2	4621.1
37.5°	3754.6	3784.3	3945.1	4395.4	4541.8
40°	3578.4	3559.7	3817.4	4274.3	4476.9
42.5°	3389.0	3382.4	3681.9	4213.7	4315.0
45°	3209.6	3223.9	3489.2	4042.0	4192.8
47.5°	3025.7	3044.4	3306.5	3853.7	4040.9
50°	2812.1	2836.3	3143.5	3686.3	3927.5
52.5°	2580.9	2627.1	2985.0	3527.8	3771.1
55°	2364.0	2402.5	2783.5	3392.3	3662.1
57.5°	2165.8	2188.9	2575.4	3221.7	3425.4
60°	1970.9	1976.4	2379.4	3032.3	3227.2
62.5°	1747.4	1757.3	2177.9	2808.8	3069.7
65°	1496.3	1543.7	1961.0	2595.2	2830.8
67.5°	1261.8	1344.4	1739.7	2399.2	2522.5
70°	1010.8	1150.6	1522.8	2169.1	2256.1
72.5°	780.6	944.7	1300.3	1911.4	2033.6
75°	565.9	749.8	1093.3	1680.2	1785.9
77.5°	381.0	568.1	899.6	1424.8	1564.6
80°	227.9	415.1	726.7	1188.0	1345.5
82.5°	116.7	278.6	563.7	996.5	1137.4
85°	50.6	176.2	426.1	826.9	949.1
87.5°	14.3	100.2	313.8	668.3	771.8
90°	1.1	52.9	223.5	524.1	617.7
92.5°	1.1	25.3	157.5	396.4	467.9
95°	1.1	13.2	98.0	287.4	351.2
97.5°	1.1	7.7	59.5	203.7	257.6
100°	1.1	6.6	35.2	135.4	183.9
102.5°	1.1	7.7	24.2	85.9	120.0
105°	1.1	7.7	19.8	56.2	79.3
107.5°	2.2	7.7	17.6	41.8	55.1
110°	1.1	6.6	18.7	31.9	42.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.2	5.5	17.6	26.4	31.9
115°	1.1	4.4	15.4	25.3	26.4
117.5°	2.2	3.3	12.1	25.3	26.4
120°	2.2	2.2	9.9	24.2	27.5
122.5°	2.2	2.2	7.7	22.0	26.4
125°	1.1	2.2	6.6	16.5	23.1
127.5°	2.2	2.2	5.5	13.2	17.6
130°	2.2	2.2	4.4	9.9	13.2
132.5°	2.2	2.2	3.3	7.7	9.9
135°	2.2	2.2	2.2	5.5	7.7
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)