

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: P518286

Luminaire Tested: HVL8-8-LD4-3STD-30-UNV-O-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: P518286
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-O-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: 16459.0 lumens
Efficiency: N/A
Efficacy: 86.2 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

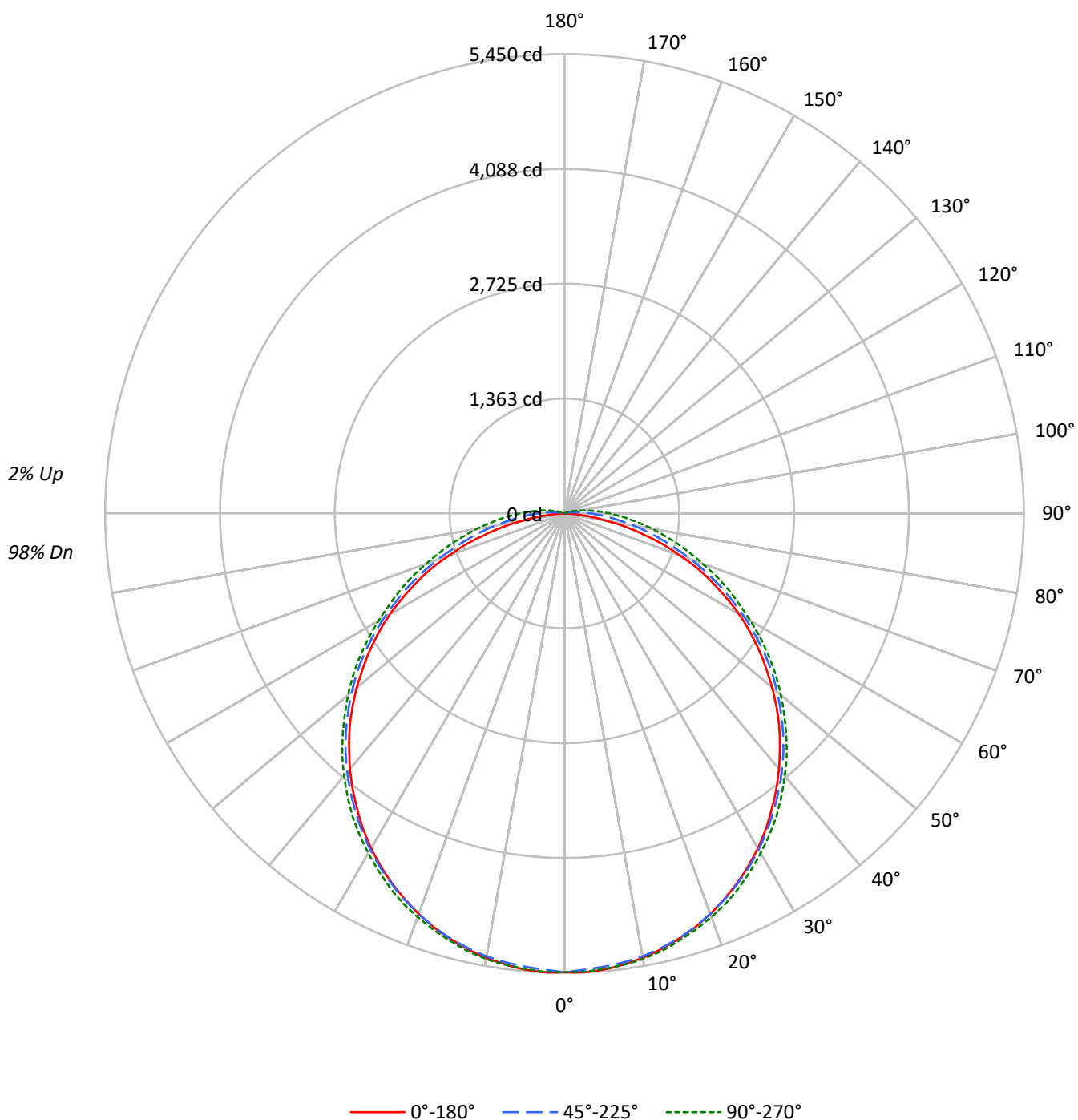
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	10986	10986	10986
5°	10985	10755	10752
10°	10932	10575	10536
15°	10858	10375	10278
20°	10778	10149	10027
25°	10678	9916	9771
30°	10561	9667	9481
35°	10408	9392	9194
40°	10251	9102	8859
45°	10082	8785	8497
50°	9857	8418	8108
55°	9616	8013	7679
60°	9329	7483	7178
65°	8840	6890	6682
70°	8122	6187	6105
75°	7084	5415	5580
80°	5495	4661	5101
85°	3168	3904	4644

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 10082 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	515.1	3.1
10°-20°	1477.6	9.0
20°-30°	2242.1	13.6
30°-40°	2711.0	16.5
40°-50°	2828.8	17.2
50°-60°	2586.3	15.7
60°-70°	2016.2	12.2
70°-80°	1261.2	7.7
80°-90°	572.8	3.5
90°-100°	192.0	1.2
100°-110°	48.2	0.3
110°-120°	7.6	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°	4234.8	25.7
0°-40°	6945.9	42.2
0°-60°	12361.0	75.1
0°-90°	16211.2	98.5
90°-120°	247.8	1.5
90°-150°	247.8	1.5
90°-180°	248.0	1.5
0°-180°	16459.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5444	5444	5444	5444	5444	
5°	5432	5422	5397	5423	5423	516
15°	5226	5234	5220	5250	5249	1475
25°	4842	4846	4851	4892	4900	2231
35°	4286	4305	4323	4367	4385	2683
45°	3606	3638	3668	3704	3722	2779
55°	2814	2848	2900	2942	2962	2514
65°	1934	1967	2035	2116	2150	1913
75°	979	1040	1191	1333	1383	1044
85°	169	313	538	711	774	214
90°	1	117	317	476	534	7
95°	1	31	164	298	344	1
105°	3	4	27	80	106	3
115°	4	4	5	14	20	2
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°	5443.6	5443.6	5443.6	5443.6	5443.6
2.5°	5450.1	5442.4	5418.0	5442.4	5441.1
5°	5432.1	5421.8	5397.4	5423.1	5423.1
7.5°	5396.2	5392.3	5370.5	5400.0	5400.0
10°	5353.8	5352.5	5334.6	5366.6	5367.9
12.5°	5294.8	5299.9	5283.2	5314.0	5317.9
15°	5225.5	5234.5	5220.4	5249.9	5248.6
17.5°	5149.8	5154.9	5144.6	5178.0	5176.7
20°	5056.1	5062.5	5054.8	5089.5	5093.3
22.5°	4952.1	4961.1	4959.8	4995.8	5006.0
25°	4841.8	4845.6	4850.8	4891.8	4899.5
27.5°	4719.9	4726.3	4735.3	4772.5	4780.2
30°	4586.4	4596.7	4606.9	4645.4	4655.7
32.5°	4445.3	4455.5	4468.4	4518.4	4523.5
35°	4286.1	4305.4	4323.3	4367.0	4384.9
37.5°	4127.0	4151.4	4168.1	4214.3	4228.4
40°	3958.9	3983.3	4010.2	4059.0	4068.0
42.5°	3783.1	3811.3	3843.4	3887.0	3902.4
45°	3606.0	3638.1	3667.6	3703.5	3721.5
47.5°	3414.8	3446.9	3482.8	3523.9	3535.4
50°	3217.2	3254.4	3292.9	3331.4	3351.9
52.5°	3014.4	3059.3	3103.0	3144.0	3163.3
55°	2814.2	2847.6	2900.2	2942.5	2961.8
57.5°	2606.3	2634.6	2682.0	2751.3	2761.6
60°	2394.6	2420.3	2469.0	2525.5	2548.6
62.5°	2161.0	2195.7	2247.0	2318.9	2339.4
65°	1933.9	1967.3	2035.3	2116.1	2149.5
67.5°	1714.5	1726.0	1813.3	1898.0	1951.9
70°	1455.2	1498.9	1600.2	1704.2	1745.3
72.5°	1231.9	1275.6	1387.2	1509.1	1560.5
75°	979.1	1039.5	1190.9	1333.3	1383.4
77.5°	757.1	823.9	1011.2	1154.9	1212.7
80°	528.7	632.7	836.7	998.4	1061.3
82.5°	332.4	460.7	678.9	848.2	903.4
85°	169.4	313.1	537.7	710.9	773.8
87.5°	44.9	202.8	418.3	583.9	648.1
90°	1.3	116.8	317.0	476.1	533.8
92.5°	1.3	65.4	236.1	378.6	437.6
95°	1.3	30.8	164.3	297.7	343.9
97.5°	1.3	12.8	112.9	224.6	270.8
100°	1.3	6.4	71.9	163.0	202.8
102.5°	2.6	3.8	44.9	116.8	148.9
105°	2.6	3.8	26.9	79.6	106.5
107.5°	2.6	3.8	15.4	53.9	73.1
110°	3.8	3.8	9.0	33.4	48.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.8	3.8	5.1	21.8	32.1
115°	3.8	3.8	5.1	14.1	20.5
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)