

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: P518260

Luminaire Tested: HVL8-8-LD4-3HI-40-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: P518260
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-3HI-40-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

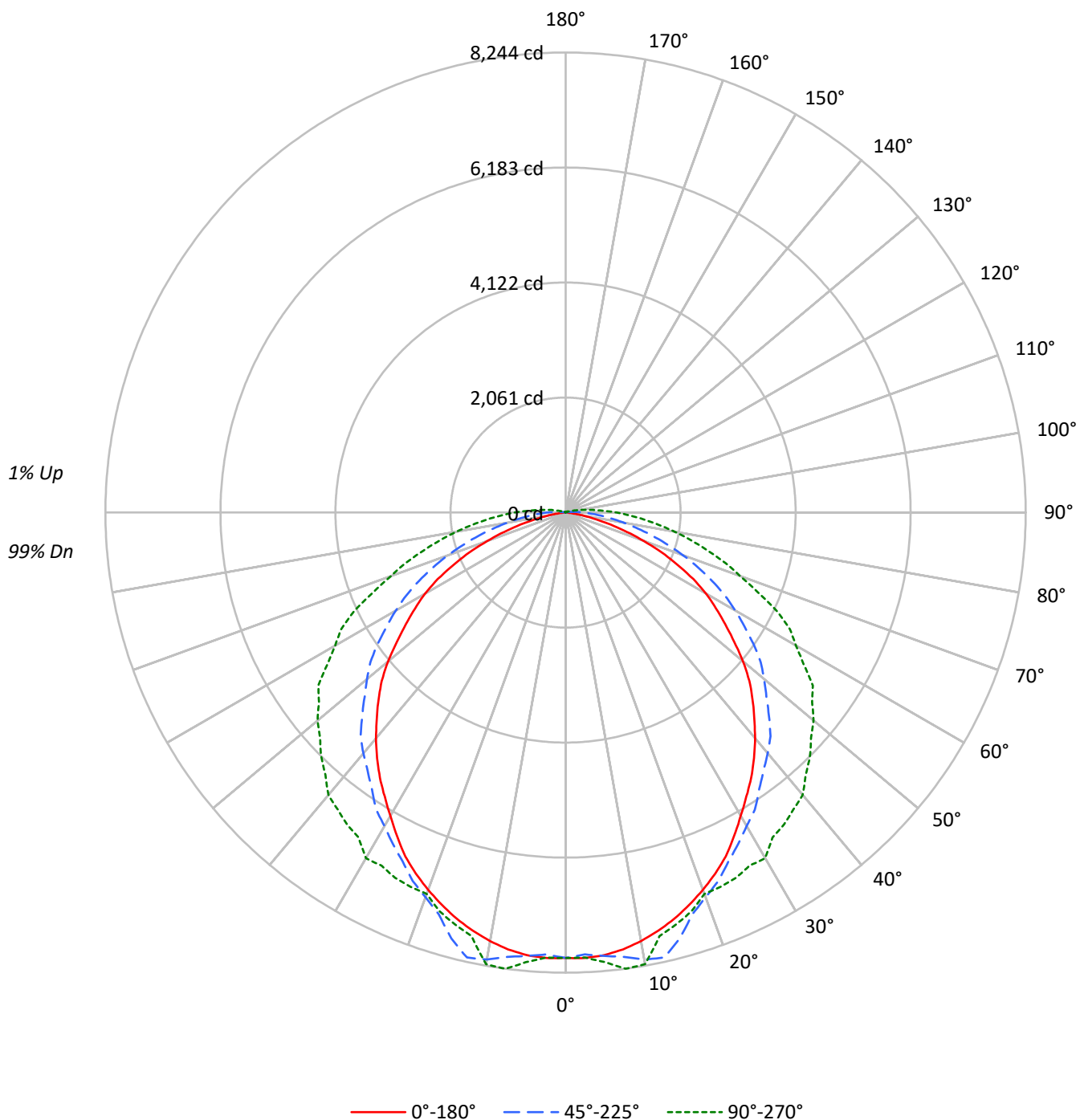
Lumens per Lamp: N/A
Luminaire Lumens: 24042.0 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

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°	16107	16107	16107
5°	16099	15886	16028
10°	15917	16121	16127
15°	15657	15703	14969
20°	15334	14727	14315
25°	14991	14108	14405
30°	14454	13611	14564
35°	14082	13142	14306
40°	13681	12794	14395
45°	13250	12341	14135
50°	12721	11865	14027
55°	11927	11355	14019
60°	11337	10648	13421
65°	10099	9801	12993
70°	8330	8693	11652
75°	6046	7341	10636
80°	3498	5978	9549
85°	1399	4568	8411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 14135 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	767.0	3.2
10°-20°	2184.3	9.1
20°-30°	3250.0	13.5
30°-40°	3906.5	16.2
40°-50°	4111.8	17.1
50°-60°	3815.3	15.9
60°-70°	3016.7	12.5
70°-80°	1842.7	7.7
80°-90°	802.8	3.3
90°-100°	249.9	1.0
100°-110°	56.2	0.2
110°-120°	22.6	0.1
120°-130°	12.7	0.1
130°-140°	3.4	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°	6201.3	25.8
0°-40°	10107.9	42.0
0°-60°	18035.0	75.0
0°-90°	23697.2	98.6
90°-120°	328.7	1.4
90°-150°	344.8	1.4
90°-180°	345.0	1.4
0°-180°	24042.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7981	7981	7981	7981	7981	
5°	7961	7945	7972	8062	8085	755
15°	7535	7825	7901	7639	7644	2123
25°	6797	7231	6901	7108	7223	3120
35°	5799	5960	6049	6599	6823	3624
45°	4739	4760	5152	5968	6191	3653
55°	3490	3547	4110	5009	5407	3136
65°	2209	2279	2895	3832	4180	2188
75°	836	1107	1614	2481	2637	912
85°	75	260	629	1221	1401	116
90°	2	78	330	774	912	4
95°	2	20	145	424	519	1
105°	2	11	29	83	117	2
115°	2	6	23	37	39	3
125°	2	3	10	24	34	3
135°	3	3	3	8	11	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°	7980.6	7980.6	7980.6	7980.6	7980.6
2.5°	7990.4	7969.3	7925.4	7967.6	7979.0
5°	7961.1	7944.9	7972.5	8061.9	8084.7
7.5°	7894.5	7956.3	8029.4	8192.0	8244.0
10°	7795.3	7912.4	8131.8	8270.0	8216.4
12.5°	7675.0	7873.3	8167.6	7897.7	7772.5
15°	7535.2	7824.6	7901.0	7639.2	7644.1
17.5°	7371.0	7783.9	7548.2	7541.7	7494.5
20°	7193.8	7647.4	7335.2	7322.2	7271.8
22.5°	7003.6	7466.9	7146.6	7120.6	7257.2
25°	6797.1	7231.2	6901.2	7107.6	7223.1
27.5°	6538.6	6922.3	6696.3	6988.9	7133.6
30°	6276.9	6603.7	6486.6	6894.7	7151.5
32.5°	6031.4	6270.4	6314.3	6858.9	6901.2
35°	5798.9	5959.9	6049.3	6598.8	6823.1
37.5°	5543.7	5587.6	5824.9	6489.9	6706.1
40°	5283.6	5255.9	5636.4	6311.0	6610.2
42.5°	5004.0	4994.2	5436.4	6221.6	6371.2
45°	4739.0	4760.1	5151.9	5968.0	6190.7
47.5°	4467.5	4495.1	4882.0	5690.0	5966.4
50°	4152.1	4187.8	4641.4	5442.9	5798.9
52.5°	3810.7	3879.0	4407.3	5208.8	5568.1
55°	3490.4	3547.3	4109.8	5008.8	5407.1
57.5°	3197.8	3231.9	3802.5	4756.8	5057.6
60°	2910.0	2918.2	3513.2	4477.2	4765.0
62.5°	2580.0	2594.6	3215.7	4147.2	4532.5
65°	2209.3	2279.3	2895.4	3831.8	4179.7
67.5°	1863.1	1985.0	2568.6	3542.4	3724.5
70°	1492.4	1698.9	2248.4	3202.7	3331.1
72.5°	1152.6	1394.9	1920.0	2822.2	3002.7
75°	835.6	1107.1	1614.3	2480.8	2636.9
77.5°	562.5	838.9	1328.2	2103.7	2310.1
80°	336.5	612.9	1073.0	1754.1	1986.6
82.5°	172.3	411.3	832.4	1471.3	1679.4
85°	74.8	260.1	629.2	1220.9	1401.4
87.5°	21.1	147.9	463.3	986.8	1139.6
90°	1.6	78.0	330.0	773.8	912.0
92.5°	1.6	37.4	232.5	585.3	690.9
95°	1.6	19.5	144.7	424.3	518.6
97.5°	1.6	11.4	87.8	300.8	380.4
100°	1.6	9.8	52.0	200.0	271.5
102.5°	1.6	11.4	35.8	126.8	177.2
105°	1.6	11.4	29.3	82.9	117.1
107.5°	3.3	11.4	26.0	61.8	81.3
110°	1.6	9.8	27.6	47.1	63.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.3	8.1	26.0	39.0	47.1
115°	1.6	6.5	22.8	37.4	39.0
117.5°	3.3	4.9	17.9	37.4	39.0
120°	3.3	3.3	14.6	35.8	40.6
122.5°	3.3	3.3	11.4	32.5	39.0
125°	1.6	3.3	9.8	24.4	34.1
127.5°	3.3	3.3	8.1	19.5	26.0
130°	3.3	3.3	6.5	14.6	19.5
132.5°	3.3	3.3	4.9	11.4	14.6
135°	3.3	3.3	3.3	8.1	11.4
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)