

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: P517807

Luminaire Tested: HVL8-1-LD4-2STD-35-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: P517807
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2STD-35-UNV-C-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1460.0 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

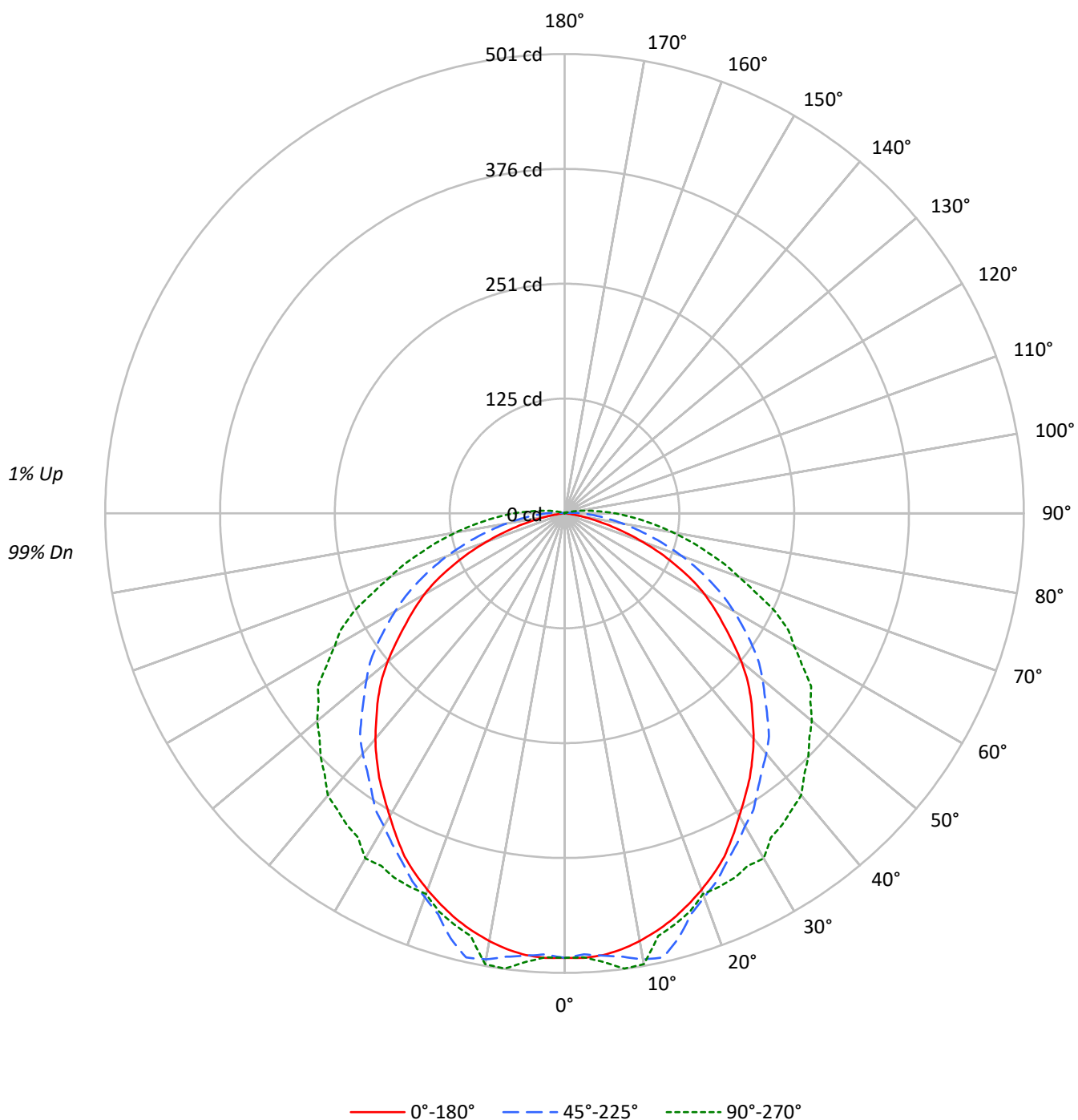
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

TEST NUMBER: P517807

CATALOG NUMBER: HVL8-1-LD4-2STD-35-UNV-C-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P517807

CATALOG NUMBER: HVL8-1-LD4-2STD-35-UNV-C-EDD-90

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°	7824	7824	7824
5°	7724	7649	7788
10°	7540	7696	7836
15°	7322	7433	7272
20°	7077	6912	6955
25°	6824	6564	6998
30°	6483	6276	7075
35°	6216	6003	6949
40°	5934	5784	6993
45°	5633	5518	6866
50°	5283	5240	6816
55°	4820	4945	6812
60°	4428	4560	6521
65°	3777	4116	6312
70°	2933	3561	5661
75°	1950	2911	5166
80°	975	2269	4637
85°	287	1620	4086

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6866 cd/sqm

TEST NUMBER: P517807

CATALOG NUMBER: HVL8-1-LD4-2STD-35-UNV-C-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.6	3.2
10°-20°	132.6	9.1
20°-30°	197.4	13.5
30°-40°	237.2	16.2
40°-50°	249.7	17.1
50°-60°	231.7	15.9
60°-70°	183.2	12.5
70°-80°	111.9	7.7
80°-90°	48.7	3.3
90°-100°	15.2	1.0
100°-110°	3.4	0.2
110°-120°	1.4	0.1
120°-130°	0.8	0.1
130°-140°	0.2	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°	376.6	25.8
0°-40°	613.8	42.0
0°-60°	1095.2	75.0
0°-90°	1439.0	98.6
90°-120°	20.0	1.4
90°-150°	21.0	1.4
90°-180°	21.0	1.4
0°-180°	1460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	485	485	485	485	485	
5°	484	482	484	490	491	46
15°	458	475	480	464	464	129
25°	413	439	419	432	439	190
35°	352	362	367	401	414	220
45°	288	289	313	362	376	222
55°	212	215	250	304	328	190
65°	134	138	176	233	254	133
75°	51	67	98	151	160	55
85°	4	16	38	74	85	7
90°	0	5	20	47	55	0
95°	0	1	9	26	32	0
105°	0	1	2	5	7	0
115°	0	0	1	2	2	0
125°	0	0	1	2	2	0
135°	0	0	0	0	1	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

TEST NUMBER: P517807

CATALOG NUMBER: HVL8-1-LD4-2STD-35-UNV-C-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	484.6	484.6	484.6	484.6	484.6
2.5°	485.2	483.9	481.3	483.9	484.5
5°	483.5	482.5	484.1	489.6	491.0
7.5°	479.4	483.2	487.6	497.5	500.6
10°	473.4	480.5	493.8	502.2	499.0
12.5°	466.1	478.1	496.0	479.6	472.0
15°	457.6	475.2	479.8	463.9	464.2
17.5°	447.6	472.7	458.4	458.0	455.1
20°	436.9	464.4	445.4	444.7	441.6
22.5°	425.3	453.4	434.0	432.4	440.7
25°	412.8	439.1	419.1	431.6	438.6
27.5°	397.1	420.4	406.6	424.4	433.2
30°	381.2	401.0	393.9	418.7	434.3
32.5°	366.3	380.8	383.4	416.5	419.1
35°	352.2	361.9	367.4	400.7	414.3
37.5°	336.7	339.3	353.7	394.1	407.2
40°	320.9	319.2	342.3	383.3	401.4
42.5°	303.9	303.3	330.1	377.8	386.9
45°	287.8	289.1	312.9	362.4	375.9
47.5°	271.3	273.0	296.5	345.5	362.3
50°	252.1	254.3	281.9	330.5	352.2
52.5°	231.4	235.6	267.6	316.3	338.1
55°	212.0	215.4	249.6	304.2	328.4
57.5°	194.2	196.3	230.9	288.9	307.1
60°	176.7	177.2	213.3	271.9	289.4
62.5°	156.7	157.6	195.3	251.8	275.2
65°	134.2	138.4	175.8	232.7	253.8
67.5°	113.1	120.5	156.0	215.1	226.2
70°	90.6	103.2	136.5	194.5	202.3
72.5°	70.0	84.7	116.6	171.4	182.3
75°	50.7	67.2	98.0	150.7	160.1
77.5°	34.2	50.9	80.7	127.8	140.3
80°	20.4	37.2	65.2	106.5	120.6
82.5°	10.5	25.0	50.5	89.3	102.0
85°	4.5	15.8	38.2	74.1	85.1
87.5°	1.3	9.0	28.1	59.9	69.2
90°	0.1	4.7	20.0	47.0	55.4
92.5°	0.1	2.3	14.1	35.5	42.0
95°	0.1	1.2	8.8	25.8	31.5
97.5°	0.1	0.7	5.3	18.3	23.1
100°	0.1	0.6	3.2	12.1	16.5
102.5°	0.1	0.7	2.2	7.7	10.8
105°	0.1	0.7	1.8	5.0	7.1
107.5°	0.2	0.7	1.6	3.8	4.9
110°	0.1	0.6	1.7	2.9	3.9

TEST NUMBER: P517807

CATALOG NUMBER: HVL8-1-LD4-2STD-35-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.2	0.5	1.6	2.4	2.9
115°	0.1	0.4	1.4	2.3	2.4
117.5°	0.2	0.3	1.1	2.3	2.4
120°	0.2	0.2	0.9	2.2	2.5
122.5°	0.2	0.2	0.7	2.0	2.4
125°	0.1	0.2	0.6	1.5	2.1
127.5°	0.2	0.2	0.5	1.2	1.6
130°	0.2	0.2	0.4	0.9	1.2
132.5°	0.2	0.2	0.3	0.7	0.9
135°	0.2	0.2	0.2	0.5	0.7
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)