

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: P517805

Luminaire Tested: HVL8-1-LD4-2STD-30-UNV-O-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: P517805
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2STD-30-UNV-O-EDD-90
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1305.0 lumens
Efficiency: N/A
Efficacy: 80.1 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

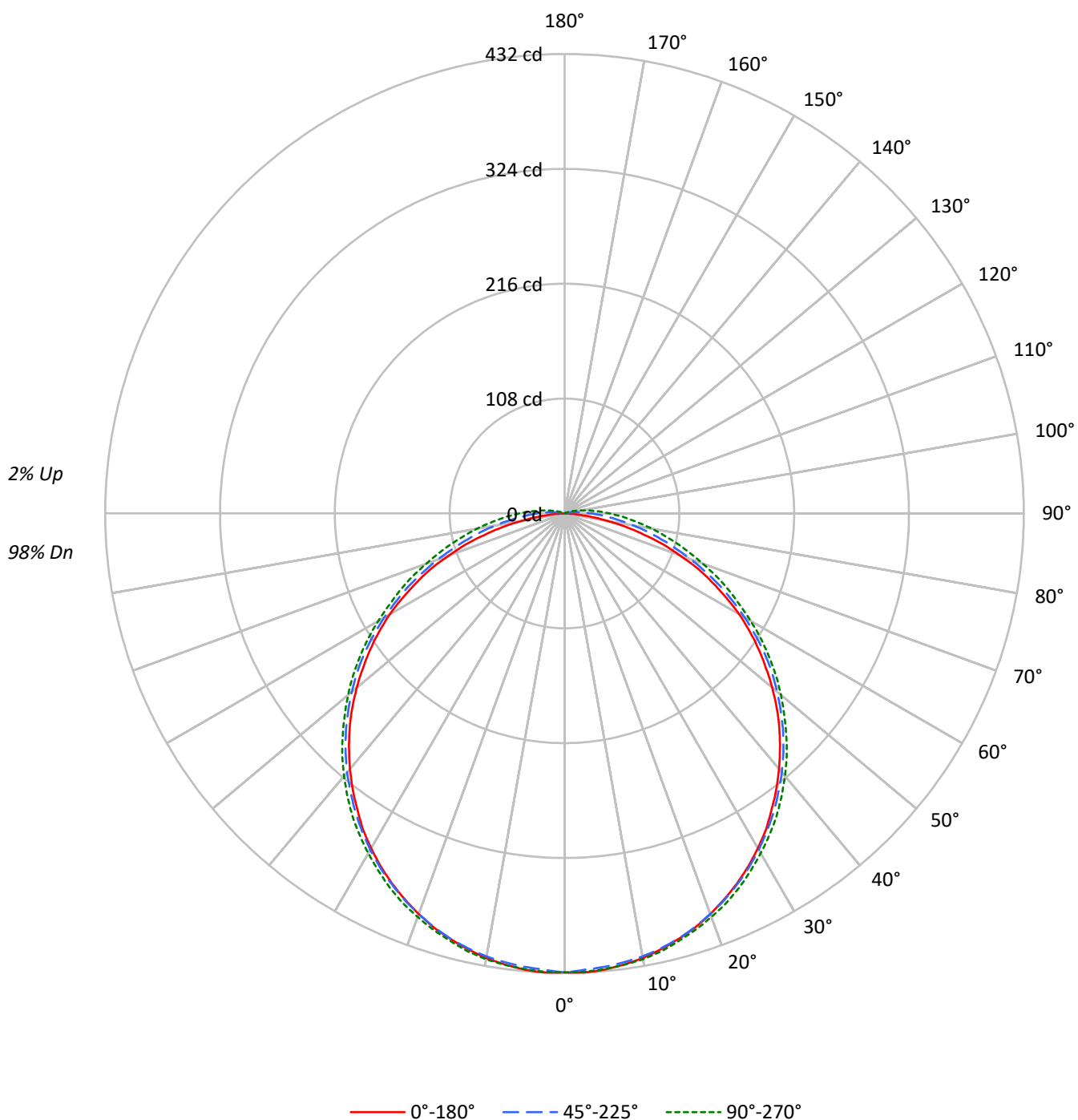
Input Watts (W): 16.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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°	6969	6969	6969
5°	6880	6762	6820
10°	6761	6593	6683
15°	6629	6412	6519
20°	6494	6219	6359
25°	6346	6024	6198
30°	6184	5820	6013
35°	5998	5601	5832
40°	5804	5374	5618
45°	5595	5129	5390
50°	5346	4854	5144
55°	5073	4557	4870
60°	4758	4186	4554
65°	4314	3778	4238
70°	3736	3310	3873
75°	2984	2805	3540
80°	2003	2308	3234
85°	854	1807	2948

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5595 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.8	3.1
10°-20°	117.2	9.0
20°-30°	177.8	13.6
30°-40°	215.0	16.5
40°-50°	224.3	17.2
50°-60°	205.1	15.7
60°-70°	159.9	12.3
70°-80°	100.0	7.7
80°-90°	45.4	3.5
90°-100°	15.2	1.2
100°-110°	3.8	0.3
110°-120°	0.6	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°	335.8	25.7
0°-40°	550.7	42.2
0°-60°	980.1	75.1
0°-90°	1285.4	98.5
90°-120°	19.6	1.5
90°-150°	19.6	1.5
90°-180°	20.0	1.5
0°-180°	1305.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	431	430	428	430	430	41
15°	414	415	414	416	416	117
25°	384	384	385	388	388	177
35°	340	341	343	346	348	213
45°	286	288	291	294	295	220
55°	223	226	230	233	235	199
65°	153	156	161	168	170	152
75°	78	82	94	106	110	83
85°	13	25	43	56	61	17
90°	0	9	25	38	42	1
95°	0	2	13	24	27	0
105°	0	0	2	6	8	0
115°	0	0	0	1	2	0
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°	431.6	431.6	431.6	431.6	431.6
2.5°	432.1	431.5	429.6	431.5	431.4
5°	430.7	429.9	428.0	430.0	430.0
7.5°	427.9	427.5	425.8	428.2	428.2
10°	424.5	424.4	423.0	425.5	425.6
12.5°	419.8	420.2	418.9	421.3	421.6
15°	414.3	415.0	413.9	416.3	416.1
17.5°	408.3	408.7	407.9	410.6	410.5
20°	400.9	401.4	400.8	403.5	403.8
22.5°	392.6	393.4	393.3	396.1	396.9
25°	383.9	384.2	384.6	387.9	388.5
27.5°	374.2	374.7	375.5	378.4	379.0
30°	363.6	364.5	365.3	368.3	369.1
32.5°	352.5	353.3	354.3	358.3	358.7
35°	339.8	341.4	342.8	346.2	347.7
37.5°	327.2	329.2	330.5	334.1	335.3
40°	313.9	315.8	318.0	321.8	322.5
42.5°	300.0	302.2	304.7	308.2	309.4
45°	285.9	288.5	290.8	293.6	295.1
47.5°	270.8	273.3	276.1	279.4	280.3
50°	255.1	258.0	261.1	264.1	265.8
52.5°	239.0	242.6	246.0	249.3	250.8
55°	223.1	225.8	230.0	233.3	234.8
57.5°	206.7	208.9	212.7	218.1	219.0
60°	189.9	191.9	195.8	200.2	202.1
62.5°	171.3	174.1	178.2	183.9	185.5
65°	153.3	156.0	161.4	167.8	170.4
67.5°	135.9	136.9	143.8	150.5	154.8
70°	115.4	118.8	126.9	135.1	138.4
72.5°	97.7	101.1	110.0	119.7	123.7
75°	77.6	82.4	94.4	105.7	109.7
77.5°	60.0	65.3	80.2	91.6	96.2
80°	41.9	50.2	66.3	79.2	84.1
82.5°	26.4	36.5	53.8	67.3	71.6
85°	13.4	24.8	42.6	56.4	61.4
87.5°	3.6	16.1	33.2	46.3	51.4
90°	0.1	9.3	25.1	37.7	42.3
92.5°	0.1	5.2	18.7	30.0	34.7
95°	0.1	2.4	13.0	23.6	27.3
97.5°	0.1	1.0	9.0	17.8	21.5
100°	0.1	0.5	5.7	12.9	16.1
102.5°	0.2	0.3	3.6	9.3	11.8
105°	0.2	0.3	2.1	6.3	8.4
107.5°	0.2	0.3	1.2	4.3	5.8
110°	0.3	0.3	0.7	2.6	3.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.3	0.4	1.7	2.5
115°	0.3	0.3	0.4	1.1	1.6
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)