

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: P517802

Luminaire Tested: HVL8-1-LD4-2LO-50-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: P517802
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-2LO-50-UNV-O-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1260.0 lumens
Efficiency: N/A
Efficacy: 109.6 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

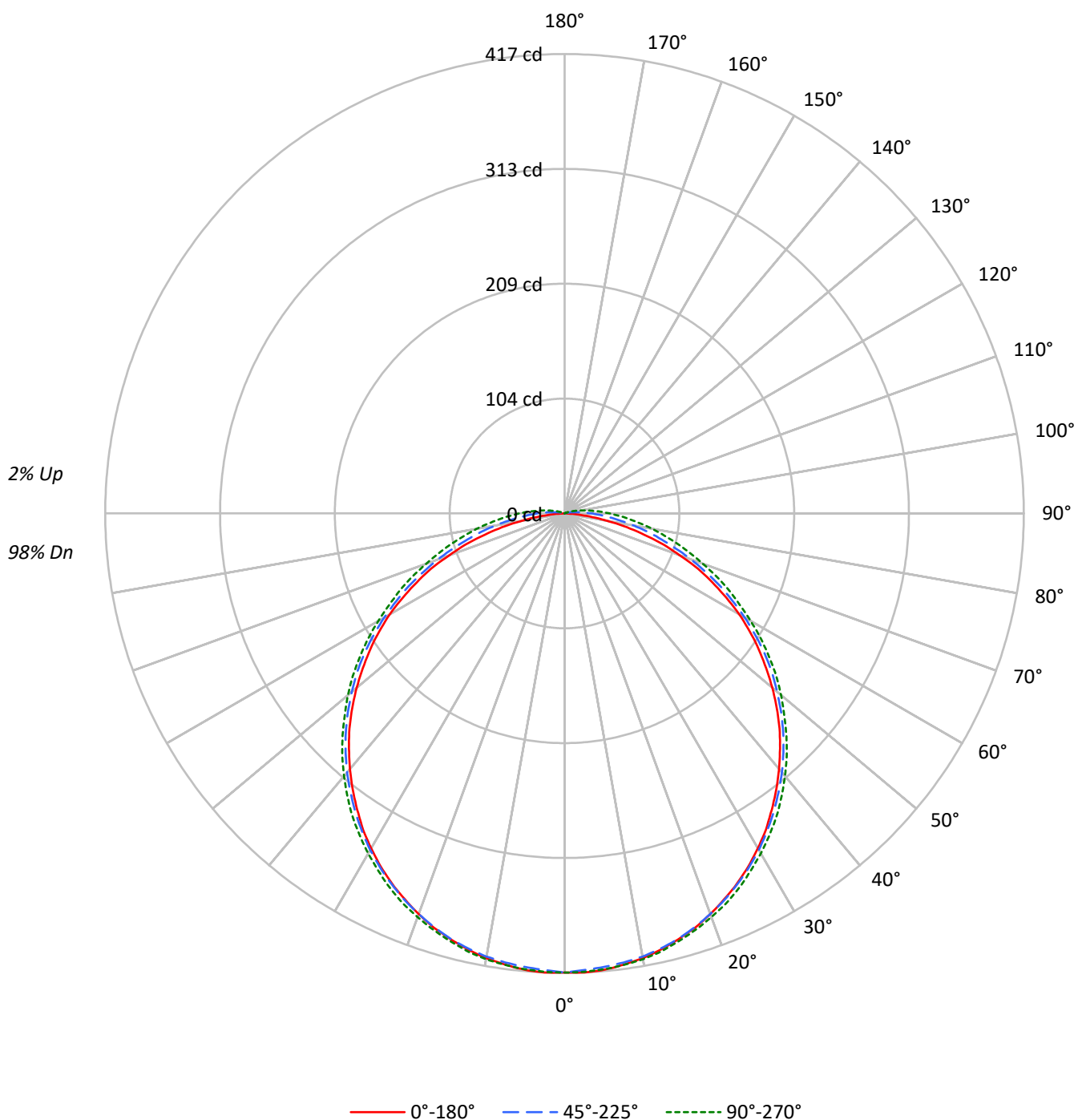
Input Watts (W): 11.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	6728	6728	6728
5°	6642	6529	6585
10°	6528	6365	6452
15°	6400	6191	6295
20°	6271	6005	6140
25°	6128	5816	5985
30°	5971	5620	5806
35°	5791	5408	5631
40°	5604	5188	5425
45°	5404	4952	5204
50°	5161	4687	4966
55°	4897	4398	4702
60°	4593	4041	4396
65°	4165	3647	4093
70°	3607	3196	3739
75°	2884	2709	3417
80°	1936	2231	3122
85°	829	1747	2843

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 5404 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.4	3.1
10°-20°	113.1	9.0
20°-30°	171.6	13.6
30°-40°	207.5	16.5
40°-50°	216.6	17.2
50°-60°	198.0	15.7
60°-70°	154.3	12.2
70°-80°	96.6	7.7
80°-90°	43.9	3.5
90°-100°	14.7	1.2
100°-110°	3.7	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°	324.2	25.7
0°-40°	531.7	42.2
0°-60°	946.3	75.1
0°-90°	1241.0	98.5
90°-120°	19.0	1.5
90°-150°	19.0	1.5
90°-180°	19.0	1.5
0°-180°	1260.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	417	417	417	417	417	
5°	416	415	413	415	415	39
15°	400	401	400	402	402	113
25°	371	371	371	374	375	171
35°	328	330	331	334	336	205
45°	276	278	281	284	285	213
55°	215	218	222	225	227	192
65°	148	151	156	162	165	146
75°	75	80	91	102	106	80
85°	13	24	41	54	59	16
90°	0	9	24	36	41	1
95°	0	2	13	23	26	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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CATALOG NUMBER: HVL8-1-LD4-2LO-50-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	416.7	416.7	416.7	416.7	416.7
2.5°	417.2	416.6	414.8	416.6	416.5
5°	415.8	415.1	413.2	415.2	415.2
7.5°	413.1	412.8	411.1	413.4	413.4
10°	409.9	409.8	408.4	410.8	410.9
12.5°	405.3	405.7	404.5	406.8	407.1
15°	400.0	400.7	399.6	401.9	401.8
17.5°	394.2	394.6	393.8	396.4	396.3
20°	387.1	387.6	387.0	389.6	389.9
22.5°	379.1	379.8	379.7	382.4	383.2
25°	370.7	371.0	371.3	374.5	375.1
27.5°	361.3	361.8	362.5	365.4	365.9
30°	351.1	351.9	352.7	355.6	356.4
32.5°	340.3	341.1	342.1	345.9	346.3
35°	328.1	329.6	331.0	334.3	335.7
37.5°	315.9	317.8	319.1	322.6	323.7
40°	303.1	304.9	307.0	310.7	311.4
42.5°	289.6	291.8	294.2	297.6	298.7
45°	276.1	278.5	280.8	283.5	284.9
47.5°	261.4	263.9	266.6	269.8	270.6
50°	246.3	249.1	252.1	255.0	256.6
52.5°	230.8	234.2	237.5	240.7	242.2
55°	215.4	218.0	222.0	225.3	226.7
57.5°	199.5	201.7	205.3	210.6	211.4
60°	183.3	185.3	189.0	193.3	195.1
62.5°	165.4	168.1	172.0	177.5	179.1
65°	148.0	150.6	155.8	162.0	164.6
67.5°	131.2	132.1	138.8	145.3	149.4
70°	111.4	114.7	122.5	130.5	133.6
72.5°	94.3	97.7	106.2	115.5	119.5
75°	75.0	79.6	91.2	102.1	105.9
77.5°	58.0	63.1	77.4	88.4	92.8
80°	40.5	48.4	64.1	76.4	81.2
82.5°	25.4	35.3	52.0	64.9	69.2
85°	13.0	24.0	41.2	54.4	59.2
87.5°	3.4	15.5	32.0	44.7	49.6
90°	0.1	8.9	24.3	36.4	40.9
92.5°	0.1	5.0	18.1	29.0	33.5
95°	0.1	2.4	12.6	22.8	26.3
97.5°	0.1	1.0	8.6	17.2	20.7
100°	0.1	0.5	5.5	12.5	15.5
102.5°	0.2	0.3	3.4	8.9	11.4
105°	0.2	0.3	2.1	6.1	8.2
107.5°	0.2	0.3	1.2	4.1	5.6
110°	0.3	0.3	0.7	2.6	3.7

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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)