

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: P517744

Luminaire Tested: HVL8-1-LD4-1LO-35-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: P517744
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-1-LD4-1LO-35-UNV-C-EDD
Description: 1 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 713.0 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.17')
CIE Type: Direct

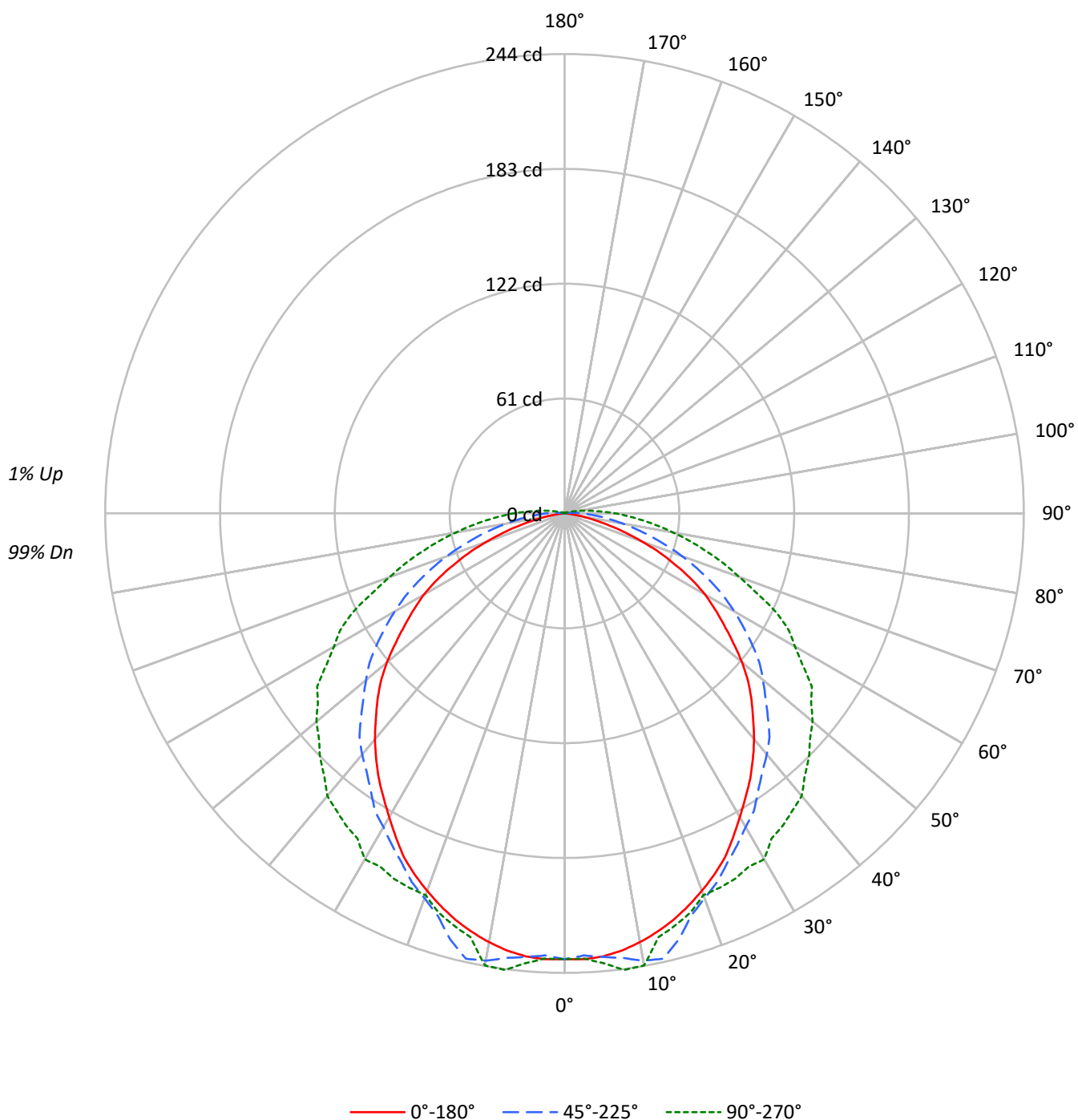
Input Watts (W): 5.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	3822	3822	3822
5°	3772	3735	3803
10°	3682	3759	3827
15°	3576	3630	3551
20°	3455	3375	3397
25°	3332	3206	3417
30°	3167	3065	3455
35°	3036	2931	3393
40°	2897	2825	3415
45°	2750	2695	3354
50°	2580	2558	3328
55°	2353	2415	3327
60°	2162	2228	3184
65°	1843	2011	3084
70°	1434	1740	2765
75°	954	1423	2523
80°	478	1107	2265
85°	140	793	1998

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 3354 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.7	3.2
10°-20°	64.8	9.1
20°-30°	96.4	13.5
30°-40°	115.9	16.2
40°-50°	121.9	17.1
50°-60°	113.1	15.9
60°-70°	89.5	12.5
70°-80°	54.7	7.7
80°-90°	23.8	3.3
90°-100°	7.4	1.0
100°-110°	1.7	0.2
110°-120°	0.7	0.1
120°-130°	0.4	0.1
130°-140°	0.1	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°	183.9	25.8
0°-40°	299.8	42.0
0°-60°	534.9	75.0
0°-90°	702.8	98.6
90°-120°	9.7	1.4
90°-150°	10.2	1.4
90°-180°	10.0	1.4
0°-180°	713.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	237	237	237	237	237	
5°	236	236	236	239	240	22
15°	224	232	234	227	227	63
25°	202	214	205	211	214	93
35°	172	177	179	196	202	107
45°	140	141	153	177	184	108
55°	104	105	122	148	160	93
65°	66	68	86	114	124	65
75°	25	33	48	74	78	27
85°	2	8	19	36	42	3
90°	0	2	10	23	27	0
95°	0	1	4	13	15	0
105°	0	0	1	2	4	0
115°	0	0	1	1	1	0
125°	0	0	0	1	1	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°	236.7	236.7	236.7	236.7	236.7
2.5°	237.0	236.3	235.0	236.3	236.6
5°	236.1	235.6	236.4	239.1	239.8
7.5°	234.1	236.0	238.1	242.9	244.5
10°	231.2	234.7	241.2	245.3	243.7
12.5°	227.6	233.5	242.2	234.2	230.5
15°	223.5	232.0	234.3	226.6	226.7
17.5°	218.6	230.8	223.9	223.7	222.3
20°	213.3	226.8	217.5	217.2	215.7
22.5°	207.7	221.4	211.9	211.2	215.2
25°	201.6	214.5	204.7	210.8	214.2
27.5°	193.9	205.3	198.6	207.3	211.6
30°	186.2	195.8	192.4	204.5	212.1
32.5°	178.9	186.0	187.3	203.4	204.7
35°	172.0	176.7	179.4	195.7	202.3
37.5°	164.4	165.7	172.7	192.5	198.9
40°	156.7	155.9	167.2	187.2	196.0
42.5°	148.4	148.1	161.2	184.5	188.9
45°	140.5	141.2	152.8	177.0	183.6
47.5°	132.5	133.3	144.8	168.7	176.9
50°	123.1	124.2	137.6	161.4	172.0
52.5°	113.0	115.0	130.7	154.5	165.1
55°	103.5	105.2	121.9	148.5	160.4
57.5°	94.8	95.8	112.8	141.1	150.0
60°	86.3	86.5	104.2	132.8	141.3
62.5°	76.5	76.9	95.4	123.0	134.4
65°	65.5	67.6	85.9	113.6	124.0
67.5°	55.3	58.9	76.2	105.1	110.5
70°	44.3	50.4	66.7	95.0	98.8
72.5°	34.2	41.4	56.9	83.7	89.0
75°	24.8	32.8	47.9	73.6	78.2
77.5°	16.7	24.9	39.4	62.4	68.5
80°	10.0	18.2	31.8	52.0	58.9
82.5°	5.1	12.2	24.7	43.6	49.8
85°	2.2	7.7	18.7	36.2	41.6
87.5°	0.6	4.4	13.7	29.3	33.8
90°	0.0	2.3	9.8	22.9	27.0
92.5°	0.0	1.1	6.9	17.4	20.5
95°	0.0	0.6	4.3	12.6	15.4
97.5°	0.0	0.3	2.6	8.9	11.3
100°	0.0	0.3	1.5	5.9	8.1
102.5°	0.0	0.3	1.1	3.8	5.3
105°	0.0	0.3	0.9	2.5	3.5
107.5°	0.1	0.3	0.8	1.8	2.4
110°	0.0	0.3	0.8	1.4	1.9

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.1	0.2	0.8	1.2	1.4
115°	0.0	0.2	0.7	1.1	1.2
117.5°	0.1	0.1	0.5	1.1	1.2
120°	0.1	0.1	0.4	1.1	1.2
122.5°	0.1	0.1	0.3	1.0	1.2
125°	0.0	0.1	0.3	0.7	1.0
127.5°	0.1	0.1	0.2	0.6	0.8
130°	0.1	0.1	0.2	0.4	0.6
132.5°	0.1	0.1	0.1	0.3	0.4
135°	0.1	0.1	0.1	0.2	0.3
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)