

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: P517960

Luminaire Tested: HVL8-2-LD4-2STD-50-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: P517960
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2STD-50-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3585.0 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

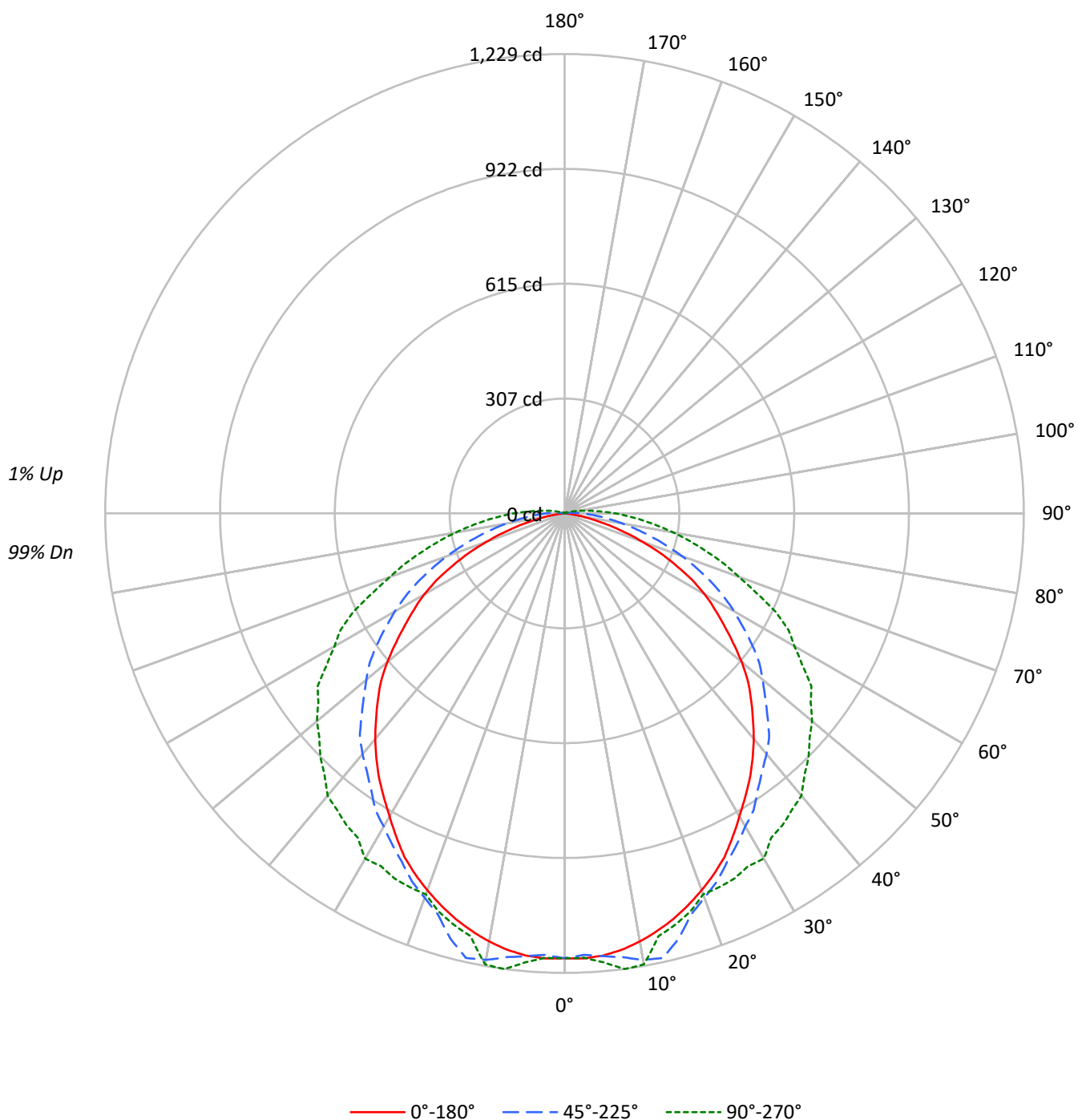
Input Watts (W): 32.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	9607	9607	9607
5°	9550	9439	9560
10°	9391	9544	9619
15°	9186	9261	8928
20°	8944	8654	8538
25°	8690	8259	8592
30°	8325	7936	8687
35°	8052	7630	8533
40°	7760	7395	8586
45°	7446	7097	8431
50°	7073	6786	8367
55°	6547	6453	8362
60°	6122	6006	8005
65°	5338	5477	7750
70°	4273	4803	6950
75°	2964	3994	6344
80°	1585	3183	5695
85°	531	2352	5018

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8431 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.4	3.2
10°-20°	325.7	9.1
20°-30°	484.6	13.5
30°-40°	582.5	16.2
40°-50°	613.1	17.1
50°-60°	568.9	15.9
60°-70°	449.8	12.5
70°-80°	274.8	7.7
80°-90°	119.7	3.3
90°-100°	37.3	1.0
100°-110°	8.4	0.2
110°-120°	3.4	0.1
120°-130°	1.9	0.1
130°-140°	0.5	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°	924.7	25.8
0°-40°	1507.2	42.0
0°-60°	2689.3	75.0
0°-90°	3533.6	98.6
90°-120°	49.0	1.4
90°-150°	51.4	1.4
90°-180°	51.0	1.4
0°-180°	3585.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1190	1190	1190	1190	1190	
5°	1187	1185	1189	1202	1206	113
15°	1124	1167	1178	1139	1140	317
25°	1014	1078	1029	1060	1077	465
35°	865	889	902	984	1017	540
45°	707	710	768	890	923	545
55°	520	529	613	747	806	468
65°	329	340	432	571	623	326
75°	125	165	241	370	393	136
85°	11	39	94	182	209	17
90°	0	12	49	115	136	1
95°	0	3	22	63	77	0
105°	0	2	4	12	18	0
115°	0	1	3	6	6	0
125°	0	0	2	4	5	0
135°	0	0	0	1	2	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°	1190.0	1190.0	1190.0	1190.0	1190.0
2.5°	1191.5	1188.3	1181.8	1188.1	1189.8
5°	1187.1	1184.7	1188.8	1202.1	1205.5
7.5°	1177.2	1186.4	1197.3	1221.5	1229.3
10°	1162.4	1179.8	1212.6	1233.2	1225.2
12.5°	1144.5	1174.0	1217.9	1177.7	1159.0
15°	1123.6	1166.8	1178.1	1139.1	1139.8
17.5°	1099.1	1160.7	1125.5	1124.6	1117.5
20°	1072.7	1140.3	1093.8	1091.8	1084.3
22.5°	1044.3	1113.4	1065.7	1061.8	1082.1
25°	1013.5	1078.3	1029.1	1059.8	1077.1
27.5°	975.0	1032.2	998.5	1042.2	1063.7
30°	936.0	984.7	967.2	1028.1	1066.4
32.5°	899.4	935.0	941.5	1022.8	1029.1
35°	864.7	888.7	902.0	984.0	1017.4
37.5°	826.6	833.2	868.6	967.7	1000.0
40°	787.9	783.7	840.5	941.1	985.7
42.5°	746.2	744.7	810.6	927.7	950.0
45°	706.6	709.8	768.2	889.9	923.1
47.5°	666.2	670.3	728.0	848.5	889.7
50°	619.1	624.5	692.1	811.6	864.7
52.5°	568.2	578.4	657.2	776.7	830.3
55°	520.5	529.0	612.8	746.9	806.3
57.5°	476.8	481.9	567.0	709.3	754.2
60°	433.9	435.1	523.9	667.6	710.5
62.5°	384.7	386.9	479.5	618.4	675.9
65°	329.4	339.9	431.7	571.4	623.3
67.5°	277.8	296.0	383.0	528.2	555.4
70°	222.5	253.3	335.3	477.6	496.7
72.5°	171.9	208.0	286.3	420.8	447.7
75°	124.6	165.1	240.7	369.9	393.2
77.5°	83.9	125.1	198.1	313.7	344.5
80°	50.2	91.4	160.0	261.6	296.2
82.5°	25.7	61.3	124.1	219.4	250.4
85°	11.2	38.8	93.8	182.1	209.0
87.5°	3.2	22.1	69.1	147.1	169.9
90°	0.2	11.6	49.2	115.4	136.0
92.5°	0.2	5.6	34.7	87.3	103.0
95°	0.2	2.9	21.6	63.3	77.3
97.5°	0.2	1.7	13.1	44.8	56.7
100°	0.2	1.5	7.8	29.8	40.5
102.5°	0.2	1.7	5.3	18.9	26.4
105°	0.2	1.7	4.4	12.4	17.5
107.5°	0.5	1.7	3.9	9.2	12.1
110°	0.2	1.5	4.1	7.0	9.5

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CATALOG NUMBER: HVL8-2-LD4-2STD-50-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	1.2	3.9	5.8	7.0
115°	0.2	1.0	3.4	5.6	5.8
117.5°	0.5	0.7	2.7	5.6	5.8
120°	0.5	0.5	2.2	5.3	6.1
122.5°	0.5	0.5	1.7	4.8	5.8
125°	0.2	0.5	1.5	3.6	5.1
127.5°	0.5	0.5	1.2	2.9	3.9
130°	0.5	0.5	1.0	2.2	2.9
132.5°	0.5	0.5	0.7	1.7	2.2
135°	0.5	0.5	0.5	1.2	1.7
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)