

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: P517993

Luminaire Tested: HVL8-2-LD4-3LO-50-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: P517993
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3LO-50-UNV-O-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3974.0 lumens
Efficiency: N/A
Efficacy: 117.9 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

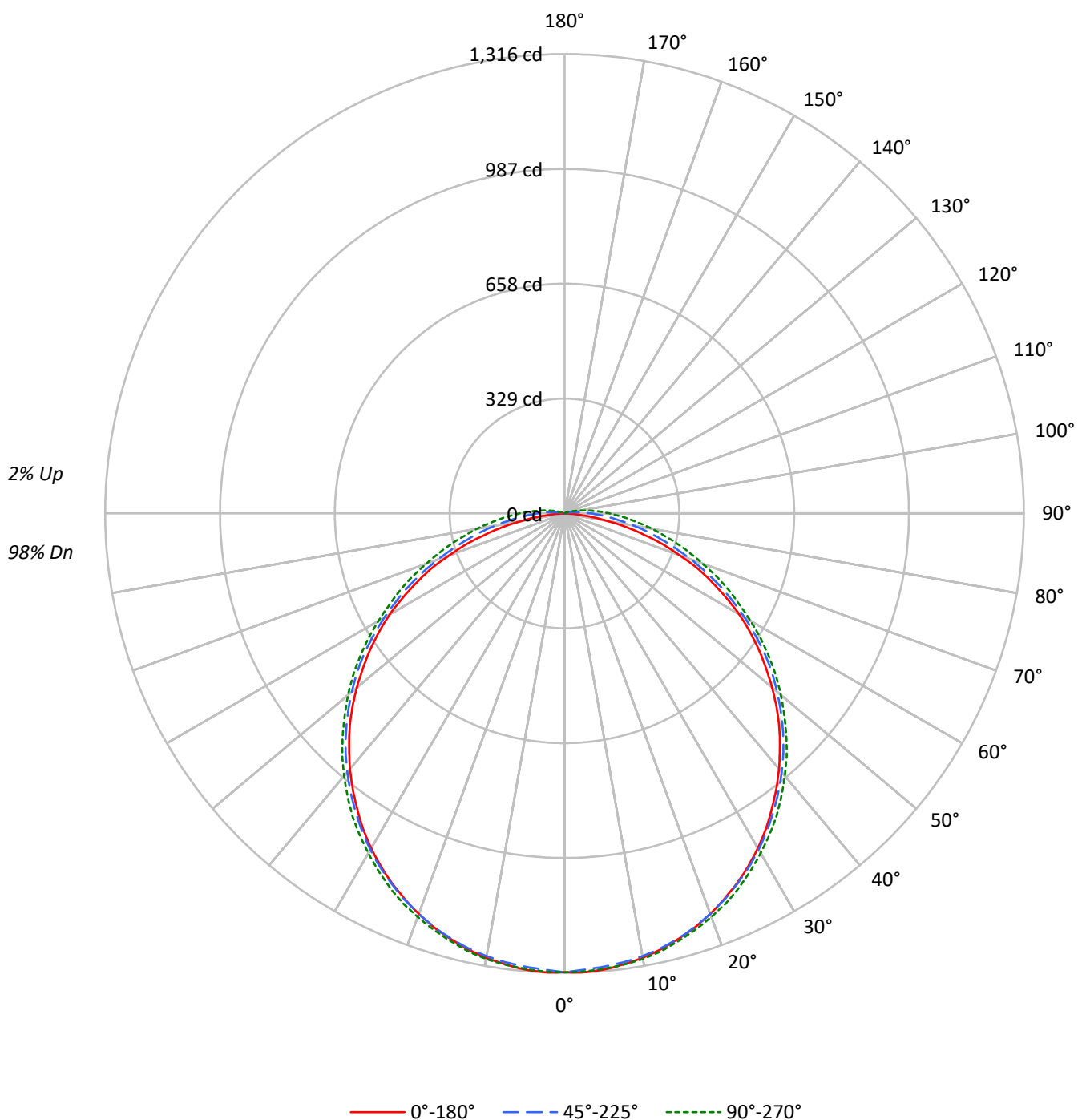
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	10611	10611	10611
5°	10552	10347	10384
10°	10443	10137	10176
15°	10315	9908	9927
20°	10179	9657	9684
25°	10023	9399	9437
30°	9849	9126	9157
35°	9637	8830	8879
40°	9415	8519	8556
45°	9176	8181	8206
50°	8875	7796	7831
55°	8546	7373	7416
60°	8158	6834	6933
65°	7566	6235	6453
70°	6749	5535	5896
75°	5624	4770	5389
80°	4031	4018	4926
85°	1940	3254	4485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9176 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.4	3.1
10°-20°	356.8	9.0
20°-30°	541.3	13.6
30°-40°	654.6	16.5
40°-50°	683.0	17.2
50°-60°	624.5	15.7
60°-70°	486.8	12.2
70°-80°	304.5	7.7
80°-90°	138.3	3.5
90°-100°	46.4	1.2
100°-110°	11.6	0.3
110°-120°	1.8	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°	1022.5	25.7
0°-40°	1677.1	42.2
0°-60°	2984.5	75.1
0°-90°	3914.2	98.5
90°-120°	59.8	1.5
90°-150°	59.8	1.5
90°-180°	60.0	1.5
0°-180°	3974.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1314	1314	1314	1314	1314	
5°	1312	1309	1303	1309	1309	125
15°	1262	1264	1260	1268	1267	356
25°	1169	1170	1171	1181	1183	539
35°	1035	1040	1044	1054	1059	648
45°	871	878	886	894	898	671
55°	680	688	700	710	715	607
65°	467	475	491	511	519	462
75°	236	251	288	322	334	252
85°	41	76	130	172	187	52
90°	0	28	76	115	129	2
95°	0	7	40	72	83	0
105°	1	1	6	19	26	1
115°	1	1	1	3	5	1
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

TEST NUMBER: P517993

CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1314.4	1314.4	1314.4	1314.4	1314.4
2.5°	1315.9	1314.0	1308.2	1314.0	1313.7
5°	1311.6	1309.1	1303.2	1309.4	1309.4
7.5°	1302.9	1302.0	1296.7	1303.8	1303.8
10°	1292.7	1292.4	1288.0	1295.8	1296.1
12.5°	1278.4	1279.7	1275.6	1283.1	1284.0
15°	1261.7	1263.9	1260.4	1267.6	1267.3
17.5°	1243.4	1244.6	1242.2	1250.2	1249.9
20°	1220.8	1222.3	1220.5	1228.8	1229.8
22.5°	1195.7	1197.9	1197.5	1206.2	1208.7
25°	1169.0	1170.0	1171.2	1181.1	1183.0
27.5°	1139.6	1141.2	1143.3	1152.3	1154.2
30°	1107.4	1109.9	1112.3	1121.6	1124.1
32.5°	1073.3	1075.8	1078.9	1091.0	1092.2
35°	1034.9	1039.5	1043.9	1054.4	1058.7
37.5°	996.5	1002.3	1006.4	1017.5	1020.9
40°	955.9	961.8	968.3	980.0	982.2
42.5°	913.4	920.2	928.0	938.5	942.2
45°	870.7	878.4	885.5	894.2	898.5
47.5°	824.5	832.2	840.9	850.8	853.6
50°	776.8	785.8	795.1	804.4	809.3
52.5°	727.8	738.7	749.2	759.1	763.8
55°	679.5	687.5	700.2	710.5	715.1
57.5°	629.3	636.1	647.6	664.3	666.8
60°	578.2	584.4	596.1	609.8	615.4
62.5°	521.8	530.1	542.5	559.9	564.8
65°	466.9	475.0	491.4	510.9	519.0
67.5°	414.0	416.7	437.8	458.3	471.3
70°	351.4	361.9	386.4	411.5	421.4
72.5°	297.5	308.0	334.9	364.4	376.8
75°	236.4	251.0	287.5	321.9	334.0
77.5°	182.8	198.9	244.2	278.9	292.8
80°	127.7	152.8	202.0	241.1	256.2
82.5°	80.2	111.2	163.9	204.8	218.1
85°	40.9	75.6	129.8	171.7	186.8
87.5°	10.8	49.0	101.0	141.0	156.5
90°	0.3	28.2	76.5	115.0	128.9
92.5°	0.3	15.8	57.0	91.4	105.7
95°	0.3	7.4	39.7	71.9	83.0
97.5°	0.3	3.1	27.3	54.2	65.4
100°	0.3	1.5	17.4	39.4	49.0
102.5°	0.6	0.9	10.8	28.2	35.9
105°	0.6	0.9	6.5	19.2	25.7
107.5°	0.6	0.9	3.7	13.0	17.7
110°	0.9	0.9	2.2	8.1	11.8

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CATALOG NUMBER: HVL8-2-LD4-3LO-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.9	0.9	1.2	5.3	7.7
115°	0.9	0.9	1.2	3.4	5.0
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)