

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: P517998

Luminaire Tested: HVL8-2-LD4-3STD-30-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: P517998
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3STD-30-UNV-O-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4115.0 lumens
Efficiency: N/A
Efficacy: 86.1 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

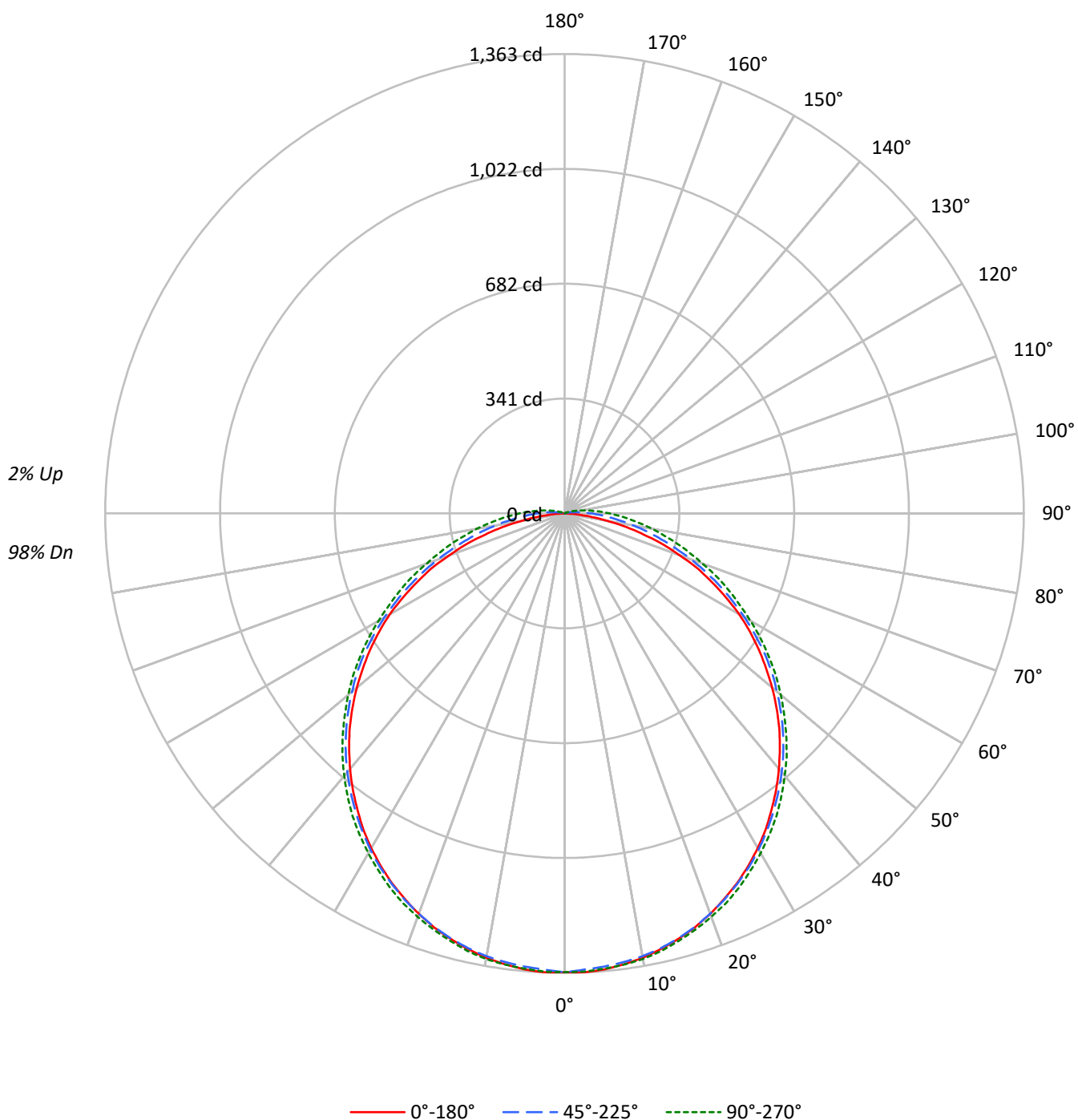
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	10987	10987	10987
5°	10926	10714	10753
10°	10813	10497	10537
15°	10681	10260	10278
20°	10540	9999	10027
25°	10379	9733	9772
30°	10199	9451	9482
35°	9979	9143	9194
40°	9749	8821	8860
45°	9501	8472	8497
50°	9189	8072	8108
55°	8850	7635	7680
60°	8447	7077	7179
65°	7835	6456	6682
70°	6987	5731	6104
75°	5824	4940	5581
80°	4173	4162	5101
85°	2011	3369	4646

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 9501 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.8	3.1
10°-20°	369.4	9.0
20°-30°	560.5	13.6
30°-40°	677.8	16.5
40°-50°	707.2	17.2
50°-60°	646.6	15.7
60°-70°	504.1	12.2
70°-80°	315.3	7.7
80°-90°	143.2	3.5
90°-100°	48.0	1.2
100°-110°	12.1	0.3
110°-120°	1.9	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°	1058.8	25.7
0°-40°	1736.6	42.2
0°-60°	3090.4	75.1
0°-90°	4053.1	98.5
90°-120°	61.9	1.5
90°-150°	61.9	1.5
90°-180°	62.0	1.5
0°-180°	4115.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1361	1361	1361	1361	1361	
5°	1358	1356	1349	1356	1356	129
15°	1306	1309	1305	1312	1312	369
25°	1210	1212	1213	1223	1225	558
35°	1072	1076	1081	1092	1096	671
45°	902	910	917	926	930	695
55°	704	712	725	736	740	629
65°	484	492	509	529	537	478
75°	245	260	298	333	346	261
85°	42	78	134	178	194	54
90°	0	29	79	119	134	2
95°	0	8	41	74	86	0
105°	1	1	7	20	27	1
115°	1	1	1	4	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: P517998

CATALOG NUMBER: HVL8-2-LD4-3STD-30-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1361.0	1361.0	1361.0	1361.0	1361.0
2.5°	1362.6	1360.7	1354.6	1360.7	1360.4
5°	1358.1	1355.5	1349.4	1355.9	1355.9
7.5°	1349.1	1348.2	1342.7	1350.1	1350.1
10°	1338.5	1338.2	1333.7	1341.7	1342.1
12.5°	1323.8	1325.1	1320.9	1328.6	1329.6
15°	1306.5	1308.7	1305.2	1312.5	1312.2
17.5°	1287.5	1288.8	1286.2	1294.6	1294.3
20°	1264.1	1265.7	1263.8	1272.4	1273.4
22.5°	1238.1	1240.4	1240.0	1249.0	1251.6
25°	1210.5	1211.5	1212.8	1223.0	1225.0
27.5°	1180.0	1181.6	1183.9	1193.2	1195.1
30°	1146.7	1149.2	1151.8	1161.4	1164.0
32.5°	1111.4	1113.9	1117.2	1129.7	1131.0
35°	1071.6	1076.4	1080.9	1091.8	1096.3
37.5°	1031.8	1037.9	1042.1	1053.6	1057.2
40°	989.8	995.9	1002.6	1014.8	1017.1
42.5°	945.8	952.9	960.9	971.8	975.7
45°	901.6	909.6	917.0	925.9	930.4
47.5°	853.7	861.8	870.8	881.0	883.9
50°	804.3	813.6	823.3	832.9	838.0
52.5°	753.6	764.9	775.8	786.1	790.9
55°	703.6	711.9	725.1	735.7	740.5
57.5°	651.6	658.7	670.6	687.9	690.4
60°	598.7	605.1	617.3	631.4	637.2
62.5°	540.3	549.0	561.8	579.8	584.9
65°	483.5	491.8	508.8	529.1	537.4
67.5°	428.6	431.5	453.3	474.5	488.0
70°	363.8	374.7	400.1	426.1	436.3
72.5°	308.0	318.9	346.8	377.3	390.1
75°	244.8	259.9	297.7	333.4	345.9
77.5°	189.3	206.0	252.8	288.8	303.2
80°	132.2	158.2	209.2	249.6	265.3
82.5°	83.1	115.2	169.7	212.1	225.9
85°	42.4	78.3	134.4	177.7	193.5
87.5°	11.2	50.7	104.6	146.0	162.0
90°	0.3	29.2	79.2	119.0	133.5
92.5°	0.3	16.4	59.0	94.6	109.4
95°	0.3	7.7	41.1	74.4	86.0
97.5°	0.3	3.2	28.2	56.1	67.7
100°	0.3	1.6	18.0	40.7	50.7
102.5°	0.6	1.0	11.2	29.2	37.2
105°	0.6	1.0	6.7	19.9	26.6
107.5°	0.6	1.0	3.9	13.5	18.3
110°	1.0	1.0	2.2	8.3	12.2

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CATALOG NUMBER: HVL8-2-LD4-3STD-30-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.0	1.0	1.3	5.5	8.0
115°	1.0	1.0	1.3	3.5	5.1
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)