

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: P517980

Luminaire Tested: HVL8-2-LD4-3LO-30-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: P517980
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-3LO-30-UNV-C-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: 4071.0 lumens
Efficiency: N/A
Efficacy: 120.8 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

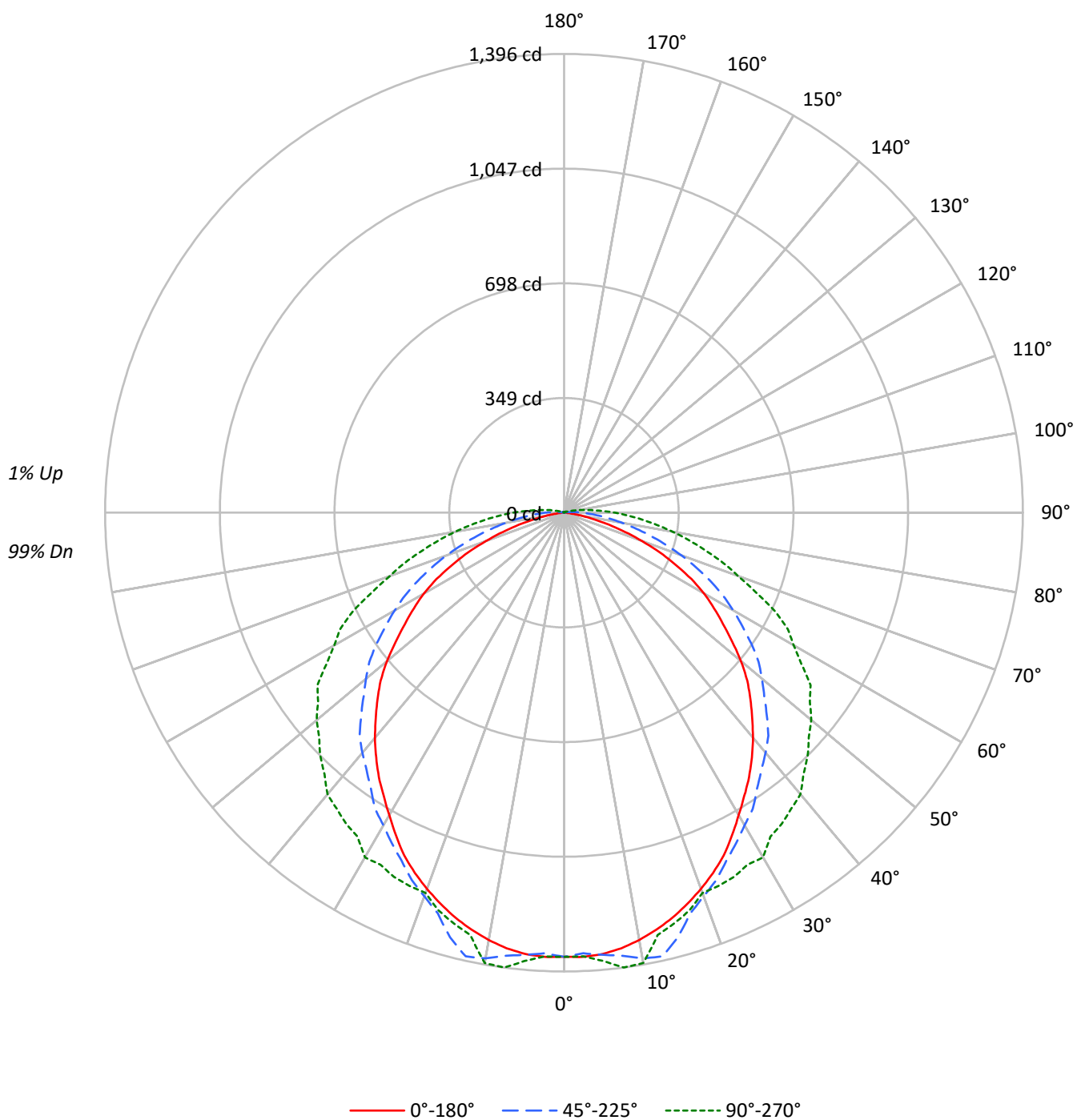
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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			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°	10910	10910	10910
5°	10845	10719	10857
10°	10664	10837	10924
15°	10431	10517	10139
20°	10157	9828	9696
25°	9868	9378	9757
30°	9453	9012	9865
35°	9143	8664	9690
40°	8812	8397	9750
45°	8456	8060	9574
50°	8033	7705	9501
55°	7433	7328	9496
60°	6953	6820	9090
65°	6062	6221	8800
70°	4853	5454	7891
75°	3366	4536	7204
80°	1799	3615	6468
85°	602	2670	5697

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 9574 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.9	3.2
10°-20°	369.9	9.1
20°-30°	550.3	13.5
30°-40°	661.5	16.2
40°-50°	696.3	17.1
50°-60°	646.0	15.9
60°-70°	510.8	12.5
70°-80°	312.0	7.7
80°-90°	135.9	3.3
90°-100°	42.3	1.0
100°-110°	9.5	0.2
110°-120°	3.8	0.1
120°-130°	2.2	0.1
130°-140°	0.6	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°	1050.1	25.8
0°-40°	1711.6	42.0
0°-60°	3053.9	75.0
0°-90°	4012.6	98.6
90°-120°	55.7	1.4
90°-150°	58.4	1.4
90°-180°	58.0	1.4
0°-180°	4071.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1351	1351	1351	1351	1351	
5°	1348	1345	1350	1365	1369	128
15°	1276	1325	1338	1294	1294	359
25°	1151	1224	1169	1204	1223	528
35°	982	1009	1024	1117	1155	614
45°	802	806	872	1011	1048	619
55°	591	601	696	848	916	531
65°	374	386	490	649	708	371
75°	142	188	273	420	446	154
85°	13	44	106	207	237	20
90°	0	13	56	131	154	1
95°	0	3	24	72	88	0
105°	0	2	5	14	20	0
115°	0	1	4	6	7	0
125°	0	1	2	4	6	0
135°	1	1	1	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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CATALOG NUMBER: HVL8-2-LD4-3LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1351.4	1351.4	1351.4	1351.4	1351.4
2.5°	1353.0	1349.4	1342.0	1349.1	1351.1
5°	1348.0	1345.3	1350.0	1365.1	1369.0
7.5°	1336.8	1347.2	1359.6	1387.1	1395.9
10°	1320.0	1339.8	1377.0	1400.4	1391.3
12.5°	1299.6	1333.2	1383.0	1337.3	1316.1
15°	1275.9	1324.9	1337.9	1293.5	1294.4
17.5°	1248.1	1318.0	1278.1	1277.0	1269.0
20°	1218.1	1294.9	1242.1	1239.9	1231.3
22.5°	1185.9	1264.4	1210.1	1205.7	1228.9
25°	1150.9	1224.4	1168.6	1203.5	1223.1
27.5°	1107.2	1172.1	1133.9	1183.4	1207.9
30°	1062.9	1118.2	1098.4	1167.5	1211.0
32.5°	1021.3	1061.8	1069.2	1161.4	1168.6
35°	981.9	1009.2	1024.3	1117.4	1155.4
37.5°	938.7	946.1	986.3	1098.9	1135.5
40°	894.7	890.0	954.4	1068.6	1119.3
42.5°	847.3	845.7	920.5	1053.5	1078.8
45°	802.4	806.0	872.4	1010.6	1048.3
47.5°	756.5	761.1	826.7	963.5	1010.3
50°	703.1	709.1	785.9	921.6	981.9
52.5°	645.3	656.8	746.3	882.0	942.8
55°	591.0	600.7	695.9	848.1	915.6
57.5°	541.5	547.3	643.9	805.5	856.4
60°	492.8	494.1	594.9	758.1	806.8
62.5°	436.9	439.3	544.5	702.2	767.5
65°	374.1	385.9	490.3	648.8	707.7
67.5°	315.5	336.1	434.9	599.8	630.7
70°	252.7	287.7	380.7	542.3	564.0
72.5°	195.2	236.2	325.1	477.9	508.4
75°	141.5	187.5	273.4	420.1	446.5
77.5°	95.2	142.0	224.9	356.2	391.2
80°	57.0	103.8	181.7	297.0	336.4
82.5°	29.2	69.6	140.9	249.1	284.4
85°	12.7	44.0	106.5	206.7	237.3
87.5°	3.6	25.1	78.5	167.1	193.0
90°	0.3	13.2	55.9	131.0	154.4
92.5°	0.3	6.3	39.4	99.1	117.0
95°	0.3	3.3	24.5	71.8	87.8
97.5°	0.3	1.9	14.9	50.9	64.4
100°	0.3	1.7	8.8	33.9	46.0
102.5°	0.3	1.9	6.1	21.5	30.0
105°	0.3	1.9	5.0	14.0	19.8
107.5°	0.6	1.9	4.4	10.5	13.8
110°	0.3	1.7	4.7	8.0	10.7

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CATALOG NUMBER: HVL8-2-LD4-3LO-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.4	4.4	6.6	8.0
115°	0.3	1.1	3.9	6.3	6.6
117.5°	0.6	0.8	3.0	6.3	6.6
120°	0.6	0.6	2.5	6.1	6.9
122.5°	0.6	0.6	1.9	5.5	6.6
125°	0.3	0.6	1.7	4.1	5.8
127.5°	0.6	0.6	1.4	3.3	4.4
130°	0.6	0.6	1.1	2.5	3.3
132.5°	0.6	0.6	0.8	1.9	2.5
135°	0.6	0.6	0.6	1.4	1.9
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)