

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: P517916

Luminaire Tested: HVL8-2-LD4-2HI-30-UNV-C-EDD

Issue Date: 4/27/2021

Tested By:

Approved By:



NVLAP Lab Code: 200050-0

Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

Test Information

Test Method: LM-79-2019
Report Number: P517916
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2HI-30-UNV-C-EDD
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

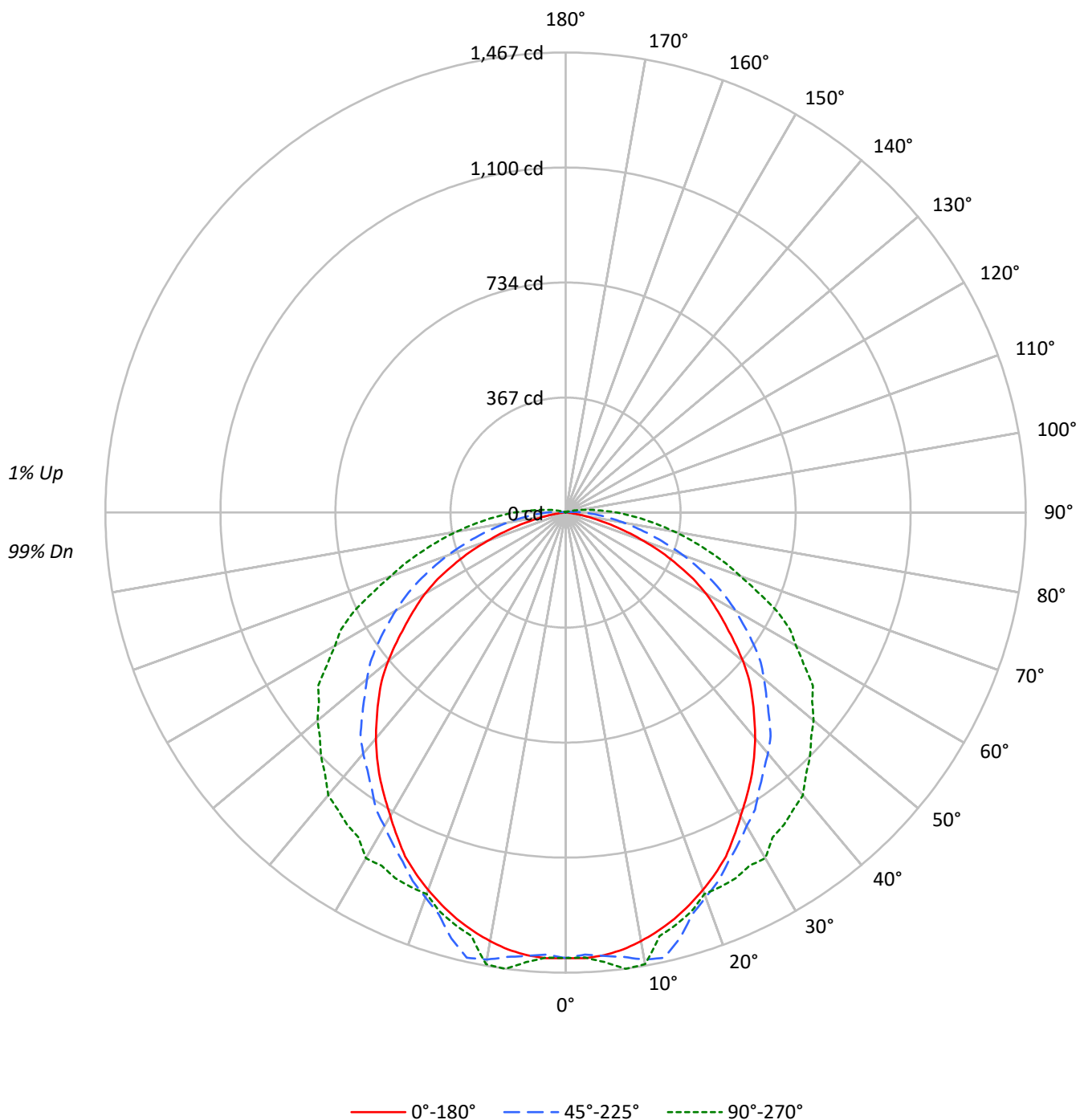
Lumens per Lamp: N/A
Luminaire Lumens: 4279.0 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 2' x H: 0.17')
CIE Type: Direct

Input Watts (W): 43.1
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

TEST NUMBER: P517916
CATALOG NUMBER: HVL8-2-LD4-2HI-30-UNV-C-EDD

Luminous Intensity Polar Plot



TEST NUMBER: P517916

CATALOG NUMBER: HVL8-2-LD4-2HI-30-UNV-C-EDD

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°	11467	11467	11467
5°	11399	11266	11411
10°	11208	11391	11482
15°	10964	11054	10657
20°	10676	10329	10191
25°	10373	9857	10256
30°	9936	9473	10368
35°	9611	9108	10185
40°	9263	8826	10248
45°	8888	8471	10063
50°	8443	8100	9986
55°	7813	7702	9981
60°	7307	7169	9555
65°	6372	6538	9250
70°	5101	5733	8296
75°	3538	4767	7572
80°	1891	3800	6798
85°	631	2808	5988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 10063 cd/sqm

TEST NUMBER: P517916

CATALOG NUMBER: HVL8-2-LD4-2HI-30-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.5	3.2
10°-20°	388.8	9.1
20°-30°	578.4	13.5
30°-40°	695.3	16.2
40°-50°	731.8	17.1
50°-60°	679.1	15.9
60°-70°	536.9	12.5
70°-80°	328.0	7.7
80°-90°	142.9	3.3
90°-100°	44.5	1.0
100°-110°	10.0	0.2
110°-120°	4.0	0.1
120°-130°	2.3	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°	1103.7	25.8
0°-40°	1799.0	42.0
0°-60°	3209.9	75.0
0°-90°	4217.7	98.6
90°-120°	58.5	1.4
90°-150°	61.4	1.4
90°-180°	61.0	1.4
0°-180°	4279.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1417	1414	1419	1435	1439	134
15°	1341	1393	1406	1360	1360	378
25°	1210	1287	1228	1265	1286	555
35°	1032	1061	1077	1174	1214	645
45°	843	847	917	1062	1102	650
55°	621	631	732	892	962	558
65°	393	406	515	682	744	389
75°	149	197	287	442	469	162
85°	13	46	112	217	249	21
90°	0	14	59	138	162	1
95°	0	4	26	76	92	0
105°	0	2	5	15	21	0
115°	0	1	4	7	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

TEST NUMBER: P517916

CATALOG NUMBER: HVL8-2-LD4-2HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1420.4	1420.4	1420.4	1420.4	1420.4
2.5°	1422.1	1418.4	1410.6	1418.1	1420.1
5°	1416.9	1414.0	1418.9	1434.9	1438.9
7.5°	1405.1	1416.1	1429.1	1458.0	1467.3
10°	1387.4	1408.2	1447.3	1471.9	1462.4
12.5°	1366.0	1401.3	1453.7	1405.6	1383.4
15°	1341.1	1392.6	1406.2	1359.6	1360.5
17.5°	1311.9	1385.4	1343.4	1342.3	1333.9
20°	1280.4	1361.1	1305.5	1303.2	1294.2
22.5°	1246.5	1329.0	1272.0	1267.3	1291.6
25°	1209.8	1287.0	1228.3	1265.0	1285.6
27.5°	1163.7	1232.0	1191.8	1243.9	1269.6
30°	1117.2	1175.3	1154.5	1227.1	1272.8
32.5°	1073.5	1116.0	1123.8	1220.7	1228.3
35°	1032.1	1060.7	1076.7	1174.5	1214.4
37.5°	986.7	994.5	1036.7	1155.1	1193.5
40°	940.4	935.5	1003.2	1123.2	1176.5
42.5°	890.6	888.9	967.6	1107.3	1133.9
45°	843.4	847.2	916.9	1062.2	1101.8
47.5°	795.1	800.0	868.9	1012.7	1061.9
50°	739.0	745.4	826.1	968.7	1032.1
52.5°	678.2	690.4	784.4	927.1	991.0
55°	621.2	631.4	731.5	891.5	962.4
57.5°	569.1	575.2	676.8	846.6	900.2
60°	517.9	519.4	625.3	796.9	848.1
62.5°	459.2	461.8	572.3	738.1	806.7
65°	393.2	405.7	515.3	682.0	743.9
67.5°	331.6	353.3	457.2	630.5	662.9
70°	265.6	302.4	400.2	570.0	592.9
72.5°	205.1	248.3	341.7	502.3	534.4
75°	148.7	197.0	287.3	441.5	469.3
77.5°	100.1	149.3	236.4	374.4	411.2
80°	59.9	109.1	191.0	312.2	353.6
82.5°	30.7	73.2	148.1	261.9	298.9
85°	13.3	46.3	112.0	217.3	249.4
87.5°	3.8	26.3	82.5	175.6	202.8
90°	0.3	13.9	58.7	137.7	162.3
92.5°	0.3	6.7	41.4	104.2	123.0
95°	0.3	3.5	25.8	75.5	92.3
97.5°	0.3	2.0	15.6	53.5	67.7
100°	0.3	1.7	9.3	35.6	48.3
102.5°	0.3	2.0	6.4	22.6	31.5
105°	0.3	2.0	5.2	14.8	20.8
107.5°	0.6	2.0	4.6	11.0	14.5
110°	0.3	1.7	4.9	8.4	11.3

TEST NUMBER: P517916

CATALOG NUMBER: HVL8-2-LD4-2HI-30-UNV-C-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.6	1.4	4.6	6.9	8.4
115°	0.3	1.2	4.1	6.7	6.9
117.5°	0.6	0.9	3.2	6.7	6.9
120°	0.6	0.6	2.6	6.4	7.2
122.5°	0.6	0.6	2.0	5.8	6.9
125°	0.3	0.6	1.7	4.3	6.1
127.5°	0.6	0.6	1.4	3.5	4.6
130°	0.6	0.6	1.2	2.6	3.5
132.5°	0.6	0.6	0.9	2.0	2.6
135°	0.6	0.6	0.6	1.4	2.0
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)