

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: P517923

Luminaire Tested: HVL8-2-LD4-2HI-40-UNV-C-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: P517923
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-2-LD4-2HI-40-UNV-C-EDD-90
Description: 2 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3811.0 lumens
Efficiency: N/A
Efficacy: 88.4 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

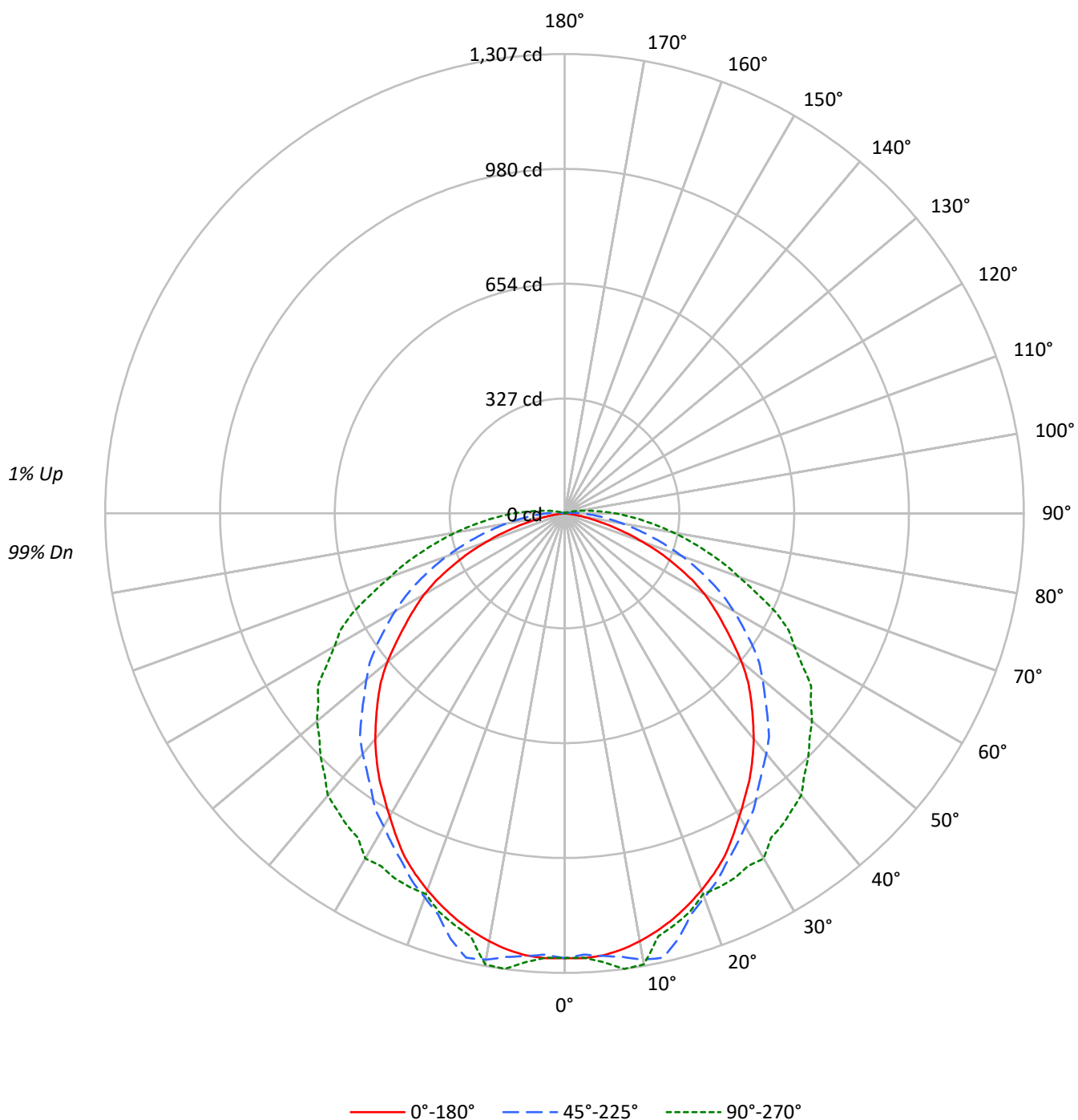
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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
RCR																	
0	119	119	119	119	116	116	116	116	110	110	110		105	105	105		101
1	108	103	98	94	105	100	96	92	96	92	89		91	89	86		87
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		76
3	89	78	69	63	86	76	68	62	73	66	61		70	64	59		67
4	81	69	60	53	79	67	59	52	65	57	51		62	56	51		60
5	75	61	52	45	72	60	51	45	58	50	44		56	49	44		54
6	69	55	46	39	67	54	46	39	52	45	39		50	44	38		49
7	64	50	41	35	62	49	41	35	47	40	34		46	39	34		44
8	59	46	37	31	58	45	37	31	43	36	31		42	35	30		41
9	55	42	34	28	54	41	33	28	40	33	28		39	32	27		38
10	52	39	31	25	51	38	30	25	37	30	25		36	29	25		35

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10212	10212	10212
5°	10153	10035	10163
10°	9983	10145	10226
15°	9764	9845	9491
20°	9508	9199	9077
25°	9238	8779	9134
30°	8849	8436	9234
35°	8559	8111	9071
40°	8249	7860	9127
45°	7917	7544	8962
50°	7520	7213	8894
55°	6959	6860	8889
60°	6508	6385	8510
65°	5675	5824	8238
70°	4544	5105	7387
75°	3152	4246	6744
80°	1683	3384	6054
85°	564	2500	5332

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 8962 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.6	3.2
10°-20°	346.2	9.1
20°-30°	515.2	13.5
30°-40°	619.2	16.2
40°-50°	651.8	17.1
50°-60°	604.8	15.9
60°-70°	478.2	12.5
70°-80°	292.1	7.7
80°-90°	127.3	3.3
90°-100°	39.6	1.0
100°-110°	8.9	0.2
110°-120°	3.6	0.1
120°-130°	2.0	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°	983.0	25.8
0°-40°	1602.2	42.0
0°-60°	2858.8	75.0
0°-90°	3756.3	98.6
90°-120°	52.1	1.4
90°-150°	54.6	1.4
90°-180°	55.0	1.4
0°-180°	3811.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1265	1265	1265	1265	1265	
5°	1262	1259	1264	1278	1282	120
15°	1194	1240	1252	1211	1212	336
25°	1077	1146	1094	1127	1145	495
35°	919	945	959	1046	1082	575
45°	751	754	817	946	981	579
55°	553	562	652	794	857	497
65°	350	361	459	607	662	347
75°	132	176	256	393	418	145
85°	12	41	100	194	222	18
90°	0	12	52	123	145	1
95°	0	3	23	67	82	0
105°	0	2	5	13	19	0
115°	0	1	4	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°	1265.0	1265.0	1265.0	1265.0	1265.0
2.5°	1266.6	1263.2	1256.3	1263.0	1264.8
5°	1262.0	1259.4	1263.8	1277.9	1281.5
7.5°	1251.4	1261.2	1272.8	1298.5	1306.8
10°	1235.7	1254.2	1289.0	1310.9	1302.4
12.5°	1216.6	1248.0	1294.7	1251.9	1232.1
15°	1194.4	1240.3	1252.4	1210.9	1211.7
17.5°	1168.4	1233.9	1196.5	1195.5	1188.0
20°	1140.3	1212.2	1162.7	1160.7	1152.7
22.5°	1110.2	1183.6	1132.8	1128.7	1150.4
25°	1077.4	1146.2	1093.9	1126.7	1145.0
27.5°	1036.5	1097.3	1061.5	1107.8	1130.8
30°	995.0	1046.8	1028.2	1092.9	1133.6
32.5°	956.1	993.9	1000.9	1087.2	1093.9
35°	919.2	944.7	958.9	1046.0	1081.6
37.5°	878.8	885.7	923.3	1028.7	1063.0
40°	837.5	833.1	893.4	1000.4	1047.8
42.5°	793.2	791.7	861.7	986.2	1009.9
45°	751.2	754.5	816.6	946.0	981.3
47.5°	708.2	712.5	773.9	901.9	945.8
50°	658.2	663.8	735.7	862.8	919.2
52.5°	604.0	614.9	698.6	825.7	882.6
55°	553.3	562.3	651.5	794.0	857.1
57.5°	506.9	512.3	602.8	754.0	801.7
60°	461.3	462.6	556.9	709.7	755.3
62.5°	409.0	411.3	509.7	657.4	718.5
65°	350.2	361.3	459.0	607.4	662.5
67.5°	295.3	314.7	407.2	561.5	590.4
70°	236.6	269.3	356.4	507.7	528.0
72.5°	182.7	221.1	304.3	447.4	476.0
75°	132.5	175.5	255.9	393.2	418.0
77.5°	89.2	133.0	210.5	333.5	366.2
80°	53.3	97.2	170.1	278.1	314.9
82.5°	27.3	65.2	131.9	233.2	266.2
85°	11.9	41.2	99.7	193.5	222.1
87.5°	3.4	23.5	73.4	156.4	180.6
90°	0.3	12.4	52.3	122.7	144.6
92.5°	0.3	5.9	36.9	92.8	109.5
95°	0.3	3.1	22.9	67.3	82.2
97.5°	0.3	1.8	13.9	47.7	60.3
100°	0.3	1.5	8.2	31.7	43.0
102.5°	0.3	1.8	5.7	20.1	28.1
105°	0.3	1.8	4.6	13.1	18.6
107.5°	0.5	1.8	4.1	9.8	12.9
110°	0.3	1.5	4.4	7.5	10.1

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CATALOG NUMBER: HVL8-2-LD4-2HI-40-UNV-C-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.5	1.3	4.1	6.2	7.5
115°	0.3	1.0	3.6	5.9	6.2
117.5°	0.5	0.8	2.8	5.9	6.2
120°	0.5	0.5	2.3	5.7	6.4
122.5°	0.5	0.5	1.8	5.2	6.2
125°	0.3	0.5	1.5	3.9	5.4
127.5°	0.5	0.5	1.3	3.1	4.1
130°	0.5	0.5	1.0	2.3	3.1
132.5°	0.5	0.5	0.8	1.8	2.3
135°	0.5	0.5	0.5	1.3	1.8
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)