

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: P518166

Luminaire Tested: HVL8-8-LD4-1HI-40-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: P518166
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-40-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

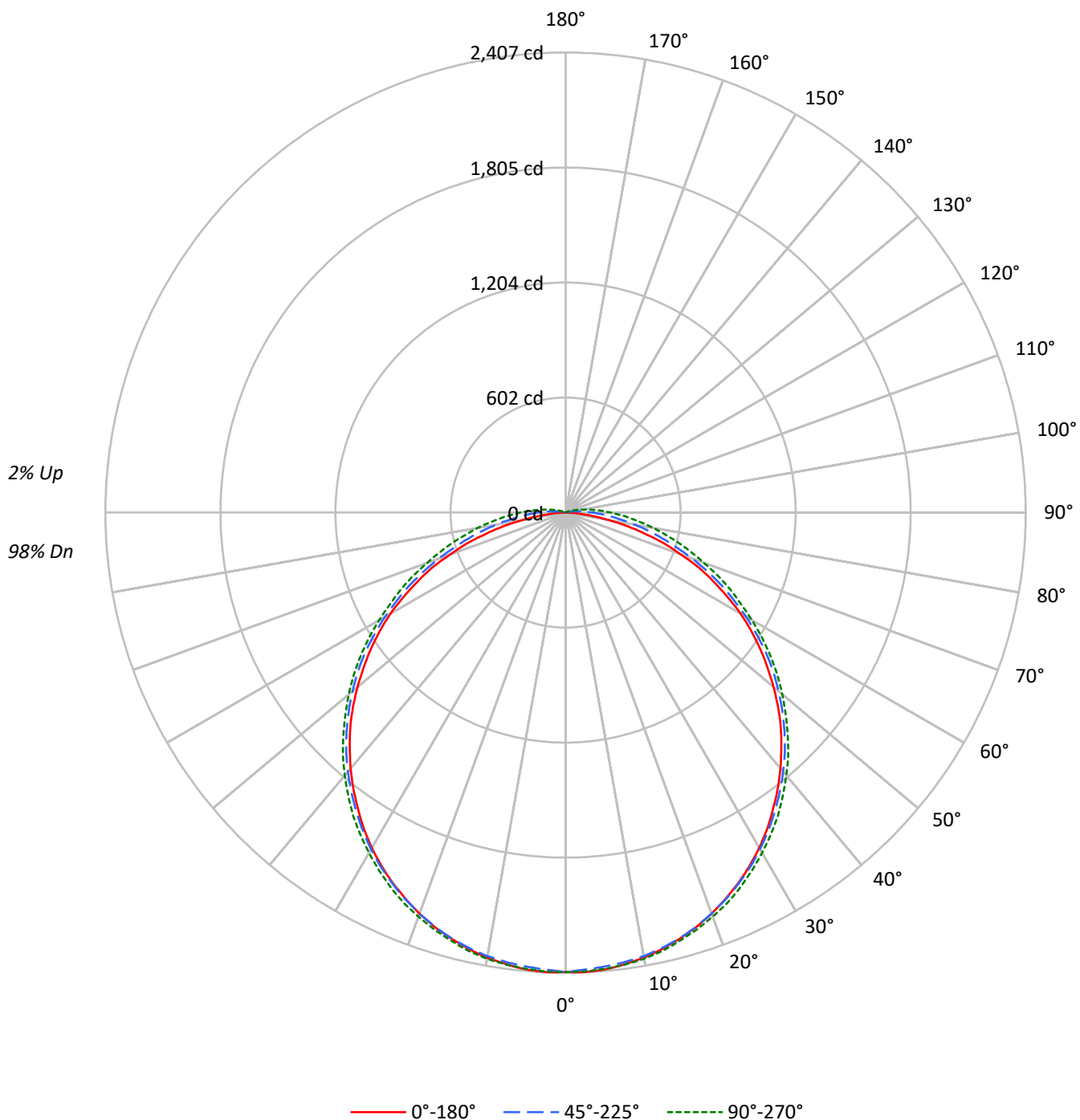
Lumens per Lamp: N/A
Luminaire Lumens: 7269.0 lumens
Efficiency: N/A
Efficacy: 84.5 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

Input Watts (W): 86
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°	4852	4852	4852
5°	4851	4750	4748
10°	4828	4671	4653
15°	4795	4582	4539
20°	4760	4482	4428
25°	4716	4379	4315
30°	4664	4269	4187
35°	4597	4148	4060
40°	4527	4020	3912
45°	4453	3880	3753
50°	4353	3718	3581
55°	4247	3539	3392
60°	4120	3305	3170
65°	3904	3043	2951
70°	3587	2732	2696
75°	3129	2391	2465
80°	2427	2058	2253
85°	1399	1724	2051

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4453 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-1HI-40-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.5	3.1
10°-20°	652.6	9.0
20°-30°	990.2	13.6
30°-40°	1197.3	16.5
40°-50°	1249.3	17.2
50°-60°	1142.2	15.7
60°-70°	890.4	12.2
70°-80°	557.0	7.7
80°-90°	253.0	3.5
90°-100°	84.8	1.2
100°-110°	21.3	0.3
110°-120°	3.4	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°	1870.3	25.7
0°-40°	3067.6	42.2
0°-60°	5459.1	75.1
0°-90°	7159.6	98.5
90°-120°	109.4	1.5
90°-150°	109.4	1.5
90°-180°	109.0	1.5
0°-180°	7269.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2404	2404	2404	2404	2404	
5°	2399	2394	2384	2395	2395	228
15°	2308	2312	2306	2319	2318	651
25°	2138	2140	2142	2160	2164	985
35°	1893	1901	1909	1929	1937	1185
45°	1593	1607	1620	1636	1644	1227
55°	1243	1258	1281	1300	1308	1110
65°	854	869	899	935	949	845
75°	432	459	526	589	611	461
85°	75	138	238	314	342	95
90°	1	52	140	210	236	3
95°	1	14	72	132	152	0
105°	1	2	12	35	47	1
115°	2	2	2	6	9	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: P518166

CATALOG NUMBER: HVL8-8-LD4-1HI-40-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2404.1	2404.1	2404.1	2404.1	2404.1
2.5°	2407.0	2403.6	2392.8	2403.6	2403.0
5°	2399.0	2394.5	2383.7	2395.1	2395.1
7.5°	2383.2	2381.5	2371.8	2384.9	2384.9
10°	2364.5	2363.9	2356.0	2370.1	2370.7
12.5°	2338.4	2340.7	2333.3	2346.9	2348.6
15°	2307.8	2311.8	2305.5	2318.6	2318.0
17.5°	2274.4	2276.6	2272.1	2286.8	2286.3
20°	2233.0	2235.8	2232.4	2247.7	2249.4
22.5°	2187.1	2191.0	2190.5	2206.4	2210.9
25°	2138.3	2140.0	2142.3	2160.4	2163.8
27.5°	2084.5	2087.3	2091.3	2107.7	2111.1
30°	2025.6	2030.1	2034.6	2051.6	2056.2
32.5°	1963.2	1967.7	1973.4	1995.5	1997.8
35°	1892.9	1901.4	1909.4	1928.6	1936.6
37.5°	1822.7	1833.4	1840.8	1861.2	1867.4
40°	1748.4	1759.2	1771.1	1792.6	1796.6
42.5°	1670.8	1683.2	1697.4	1716.7	1723.5
45°	1592.6	1606.7	1619.8	1635.6	1643.6
47.5°	1508.1	1522.3	1538.2	1556.3	1561.4
50°	1420.8	1437.3	1454.3	1471.3	1480.3
52.5°	1331.3	1351.1	1370.4	1388.5	1397.0
55°	1242.9	1257.6	1280.9	1299.6	1308.1
57.5°	1151.1	1163.5	1184.5	1215.1	1219.6
60°	1057.6	1068.9	1090.4	1115.4	1125.6
62.5°	954.4	969.7	992.4	1024.1	1033.2
65°	854.1	868.8	898.9	934.6	949.3
67.5°	757.2	762.3	800.8	838.2	862.0
70°	642.7	662.0	706.7	752.6	770.8
72.5°	544.1	563.3	612.7	666.5	689.2
75°	432.4	459.1	525.9	588.9	611.0
77.5°	334.4	363.9	446.6	510.1	535.6
80°	233.5	279.4	369.5	440.9	468.7
82.5°	146.8	203.5	299.8	374.6	399.0
85°	74.8	138.3	237.5	314.0	341.7
87.5°	19.8	89.5	184.8	257.9	286.2
90°	0.6	51.6	140.0	210.3	235.8
92.5°	0.6	28.9	104.3	167.2	193.3
95°	0.6	13.6	72.5	131.5	151.9
97.5°	0.6	5.7	49.9	99.2	119.6
100°	0.6	2.8	31.7	72.0	89.5
102.5°	1.1	1.7	19.8	51.6	65.7
105°	1.1	1.7	11.9	35.1	47.0
107.5°	1.1	1.7	6.8	23.8	32.3
110°	1.7	1.7	4.0	14.7	21.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	1.7	2.3	9.6	14.2
115°	1.7	1.7	2.3	6.2	9.1
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)