

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: P518162

Luminaire Tested: HVL8-8-LD4-1HI-35-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: P518162
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-1HI-35-UNV-O-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3500K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

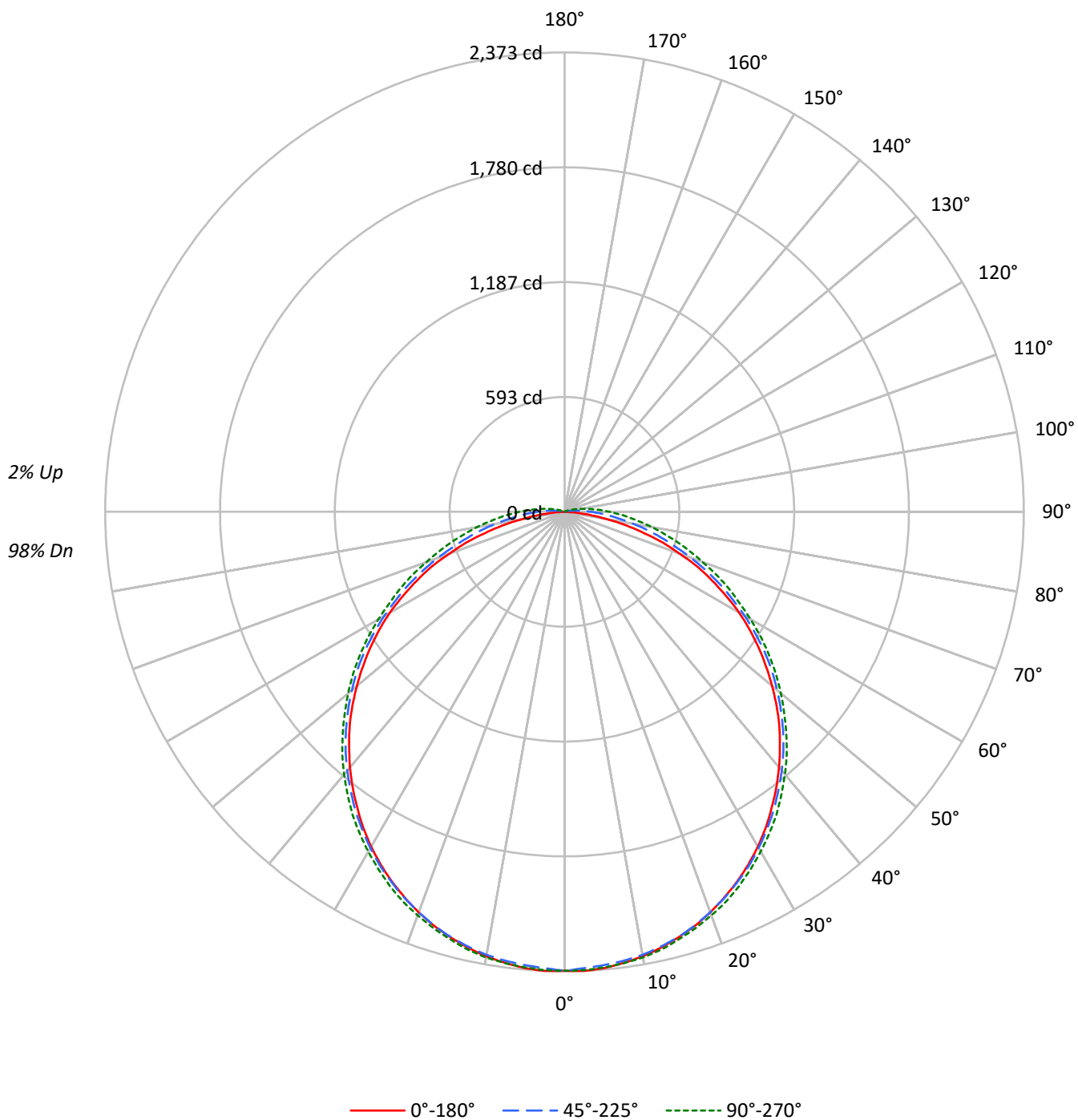
Lumens per Lamp: N/A
Luminaire Lumens: 7167.0 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.27 / 1.38
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

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°	4784	4784	4784
5°	4783	4683	4682
10°	4760	4605	4588
15°	4728	4518	4476
20°	4693	4419	4366
25°	4650	4318	4255
30°	4599	4210	4129
35°	4532	4090	4003
40°	4464	3964	3858
45°	4390	3825	3700
50°	4292	3665	3531
55°	4187	3489	3344
60°	4062	3259	3126
65°	3849	3000	2910
70°	3537	2694	2658
75°	3085	2358	2430
80°	2393	2029	2221
85°	1380	1700	2023

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4390 cd/sqm

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CATALOG NUMBER: HVL8-8-LD4-1HI-35-UNV-O-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.3	3.1
10°-20°	643.4	9.0
20°-30°	976.3	13.6
30°-40°	1180.5	16.5
40°-50°	1231.8	17.2
50°-60°	1126.2	15.7
60°-70°	877.9	12.2
70°-80°	549.2	7.7
80°-90°	249.4	3.5
90°-100°	83.6	1.2
100°-110°	21.0	0.3
110°-120°	3.3	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°	1844.0	25.7
0°-40°	3024.6	42.2
0°-60°	5382.5	75.1
0°-90°	7059.1	98.5
90°-120°	107.9	1.5
90°-150°	107.9	1.5
90°-180°	108.0	1.5
0°-180°	7167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2370	2370	2370	2370	2370	
5°	2365	2361	2350	2362	2362	225
15°	2275	2279	2273	2286	2286	642
25°	2108	2110	2112	2130	2134	971
35°	1866	1875	1883	1902	1909	1168
45°	1570	1584	1597	1613	1620	1210
55°	1225	1240	1263	1281	1290	1095
65°	842	857	886	922	936	833
75°	426	453	519	581	602	455
85°	74	136	234	310	337	93
90°	1	51	138	207	232	3
95°	1	13	72	130	150	0
105°	1	2	12	35	46	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: P518162

CATALOG NUMBER: HVL8-8-LD4-1HI-35-UNV-O-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2370.4	2370.4	2370.4	2370.4	2370.4
2.5°	2373.2	2369.9	2359.2	2369.9	2369.3
5°	2365.4	2360.9	2350.3	2361.5	2361.5
7.5°	2349.7	2348.1	2338.6	2351.4	2351.4
10°	2331.3	2330.7	2322.9	2336.9	2337.4
12.5°	2305.6	2307.8	2300.6	2314.0	2315.6
15°	2275.4	2279.3	2273.2	2286.0	2285.5
17.5°	2242.4	2244.7	2240.2	2254.7	2254.2
20°	2201.7	2204.4	2201.1	2216.2	2217.9
22.5°	2156.4	2160.3	2159.7	2175.4	2179.9
25°	2108.3	2110.0	2112.2	2130.1	2133.5
27.5°	2055.2	2058.0	2062.0	2078.2	2081.5
30°	1997.1	2001.6	2006.1	2022.8	2027.3
32.5°	1935.7	1940.1	1945.7	1967.5	1969.8
35°	1866.4	1874.8	1882.6	1901.6	1909.4
37.5°	1797.1	1807.7	1815.0	1835.1	1841.2
40°	1723.9	1734.5	1746.2	1767.5	1771.4
42.5°	1647.3	1659.6	1673.6	1692.6	1699.3
45°	1570.2	1584.2	1597.0	1612.7	1620.5
47.5°	1487.0	1500.9	1516.6	1534.5	1539.5
50°	1400.9	1417.1	1433.9	1450.6	1459.6
52.5°	1312.6	1332.2	1351.2	1369.0	1377.4
55°	1225.4	1240.0	1262.9	1281.3	1289.7
57.5°	1134.9	1147.2	1167.9	1198.1	1202.5
60°	1042.7	1053.9	1075.1	1099.7	1109.8
62.5°	941.0	956.1	978.5	1009.7	1018.7
65°	842.1	856.6	886.2	921.5	936.0
67.5°	746.6	751.6	789.6	826.5	849.9
70°	633.7	652.7	696.8	742.1	760.0
72.5°	536.4	555.4	604.1	657.1	679.5
75°	426.4	452.6	518.6	580.6	602.4
77.5°	329.7	358.7	440.3	502.9	528.1
80°	230.2	275.5	364.3	434.7	462.1
82.5°	144.7	200.6	295.6	369.4	393.4
85°	73.8	136.3	234.1	309.6	337.0
87.5°	19.6	88.3	182.2	254.3	282.2
90°	0.6	50.9	138.0	207.3	232.5
92.5°	0.6	28.5	102.8	164.8	190.5
95°	0.6	13.4	71.5	129.6	149.8
97.5°	0.6	5.6	49.2	97.8	117.9
100°	0.6	2.8	31.3	71.0	88.3
102.5°	1.1	1.7	19.6	50.9	64.8
105°	1.1	1.7	11.7	34.6	46.4
107.5°	1.1	1.7	6.7	23.5	31.9
110°	1.7	1.7	3.9	14.5	21.2

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CATALOG NUMBER: HVL8-8-LD4-1HI-35-UNV-O-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	1.7	2.2	9.5	14.0
115°	1.7	1.7	2.2	6.1	8.9
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)