

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: P518213

Luminaire Tested: HVL8-8-LD4-2HI-40-UNV-O-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: P518213
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2HI-40-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13804.0 lumens
Efficiency: N/A
Efficacy: 80.1 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

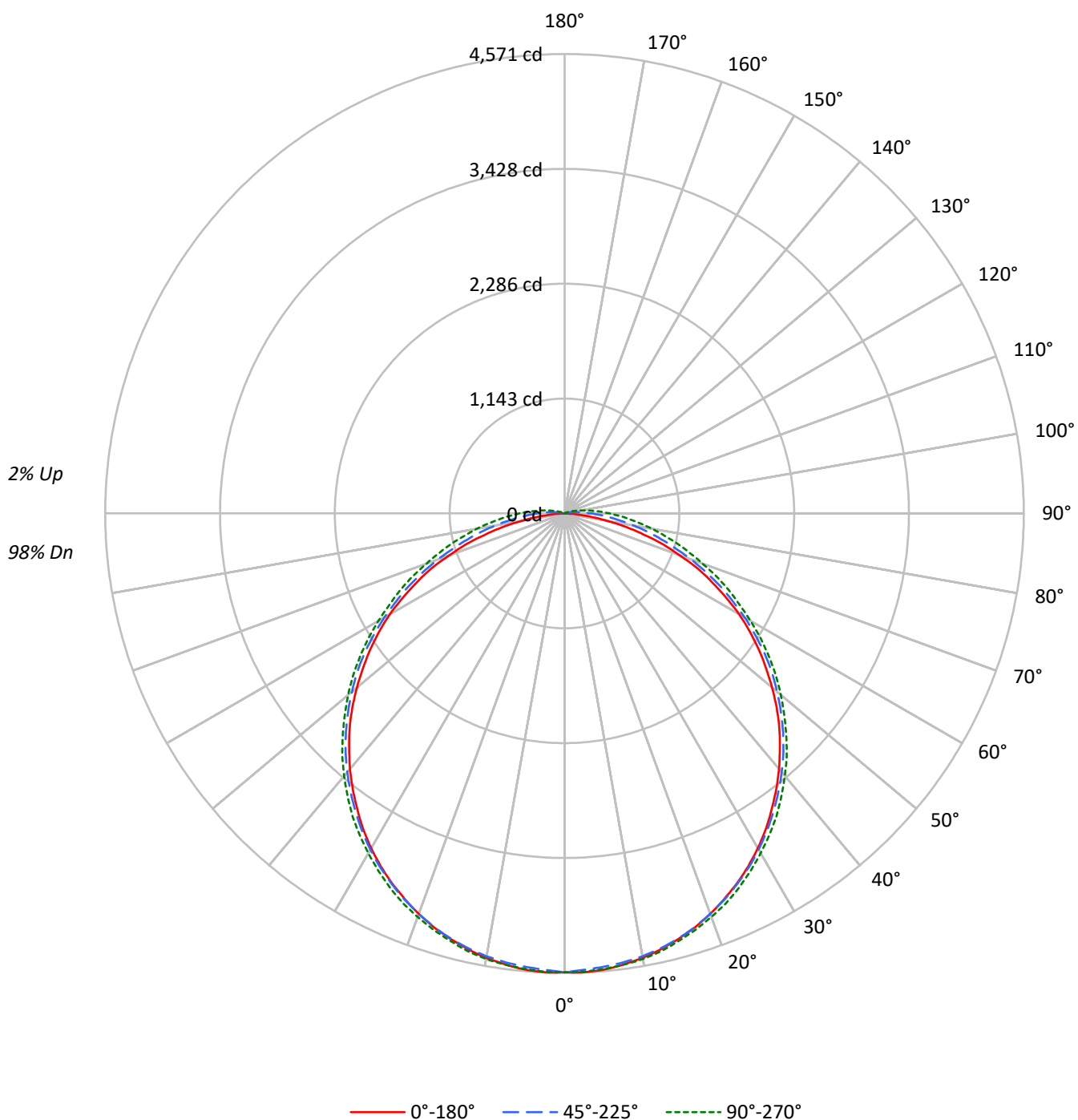
Input Watts (W): 172.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518213

CATALOG NUMBER: HVL8-8-LD4-2HI-40-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P518213

CATALOG NUMBER: HVL8-8-LD4-2HI-40-UNV-O-EDD-90

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°	9214	9214	9214
5°	9213	9020	9017
10°	9168	8869	8837
15°	9106	8702	8620
20°	9039	8512	8409
25°	8956	8317	8195
30°	8858	8108	7952
35°	8729	7877	7711
40°	8597	7634	7430
45°	8456	7368	7127
50°	8267	7060	6800
55°	8065	6720	6440
60°	7824	6276	6020
65°	7414	5778	5604
70°	6812	5189	5120
75°	5942	4542	4680
80°	4609	3909	4278
85°	2658	3275	3895

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 8456 cd/sqm

TEST NUMBER: P518213

CATALOG NUMBER: HVL8-8-LD4-2HI-40-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	432.0	3.1
10°-20°	1239.3	9.0
20°-30°	1880.4	13.6
30°-40°	2273.7	16.5
40°-50°	2372.4	17.2
50°-60°	2169.1	15.7
60°-70°	1690.9	12.2
70°-80°	1057.8	7.7
80°-90°	480.4	3.5
90°-100°	161.0	1.2
100°-110°	40.4	0.3
110°-120°	6.4	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°	3551.7	25.7
0°-40°	5825.4	42.2
0°-60°	10367.0	75.1
0°-90°	13596.2	98.5
90°-120°	207.8	1.5
90°-150°	207.8	1.5
90°-180°	208.0	1.5
0°-180°	13804.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4566	4566	4566	4566	4566	
5°	4556	4547	4527	4548	4548	433
15°	4383	4390	4378	4403	4402	1237
25°	4061	4064	4068	4103	4109	1871
35°	3595	3611	3626	3662	3678	2250
45°	3024	3051	3076	3106	3121	2330
55°	2360	2388	2432	2468	2484	2109
65°	1622	1650	1707	1775	1803	1605
75°	821	872	999	1118	1160	875
85°	142	263	451	596	649	180
90°	1	98	266	399	448	6
95°	1	26	138	250	288	1
105°	2	3	23	67	89	2
115°	3	3	4	12	17	2
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: P518213

CATALOG NUMBER: HVL8-8-LD4-2HI-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4565.5	4565.5	4565.5	4565.5	4565.5
2.5°	4570.9	4564.5	4544.0	4564.5	4563.4
5°	4555.8	4547.2	4526.8	4548.3	4548.3
7.5°	4525.7	4522.5	4504.2	4528.9	4528.9
10°	4490.2	4489.1	4474.0	4501.0	4502.0
12.5°	4440.7	4445.0	4431.0	4456.8	4460.1
15°	4382.6	4390.1	4378.3	4403.0	4401.9
17.5°	4319.1	4323.4	4314.8	4342.7	4341.7
20°	4240.5	4245.9	4239.4	4268.5	4271.7
22.5°	4153.3	4160.9	4159.8	4189.9	4198.5
25°	4060.8	4064.0	4068.3	4102.7	4109.2
27.5°	3958.5	3963.9	3971.4	4002.6	4009.1
30°	3846.6	3855.2	3863.8	3896.1	3904.7
32.5°	3728.2	3736.8	3747.6	3789.5	3793.8
35°	3594.7	3610.9	3625.9	3662.5	3677.6
37.5°	3461.3	3481.7	3495.7	3534.5	3546.3
40°	3320.3	3340.7	3363.3	3404.2	3411.8
42.5°	3172.8	3196.5	3223.4	3260.0	3272.9
45°	3024.3	3051.2	3076.0	3106.1	3121.2
47.5°	2863.9	2890.9	2921.0	2955.4	2965.1
50°	2698.2	2729.4	2761.7	2794.0	2811.2
52.5°	2528.2	2565.8	2602.4	2636.9	2653.0
55°	2360.3	2388.2	2432.4	2467.9	2484.0
57.5°	2185.9	2209.6	2249.4	2307.5	2316.1
60°	2008.3	2029.8	2070.7	2118.1	2137.5
62.5°	1812.4	1841.5	1884.5	1944.8	1962.0
65°	1621.9	1649.9	1707.0	1774.8	1802.7
67.5°	1437.9	1447.6	1520.8	1591.8	1637.0
70°	1220.5	1257.1	1342.1	1429.3	1463.7
72.5°	1033.2	1069.8	1163.4	1265.7	1308.7
75°	821.2	871.8	998.8	1118.2	1160.2
77.5°	635.0	691.0	848.1	968.6	1017.1
80°	443.4	530.6	701.7	837.3	890.1
82.5°	278.8	386.4	569.3	711.4	757.7
85°	142.1	262.6	451.0	596.3	649.0
87.5°	37.7	170.1	350.9	489.7	543.5
90°	1.1	97.9	265.8	399.3	447.7
92.5°	1.1	54.9	198.0	317.5	367.0
95°	1.1	25.8	137.8	249.7	288.4
97.5°	1.1	10.8	94.7	188.3	227.1
100°	1.1	5.4	60.3	136.7	170.1
102.5°	2.2	3.2	37.7	97.9	124.8
105°	2.2	3.2	22.6	66.7	89.3
107.5°	2.2	3.2	12.9	45.2	61.3
110°	3.2	3.2	7.5	28.0	40.9

TEST NUMBER: P518213

CATALOG NUMBER: HVL8-8-LD4-2HI-40-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	3.2	3.2	4.3	18.3	26.9
115°	3.2	3.2	4.3	11.8	17.2
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)