

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: P518246

Luminaire Tested: HVL8-8-LD4-2STD-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: P518246
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-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: 10727.0 lumens
Efficiency: N/A
Efficacy: 82.1 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

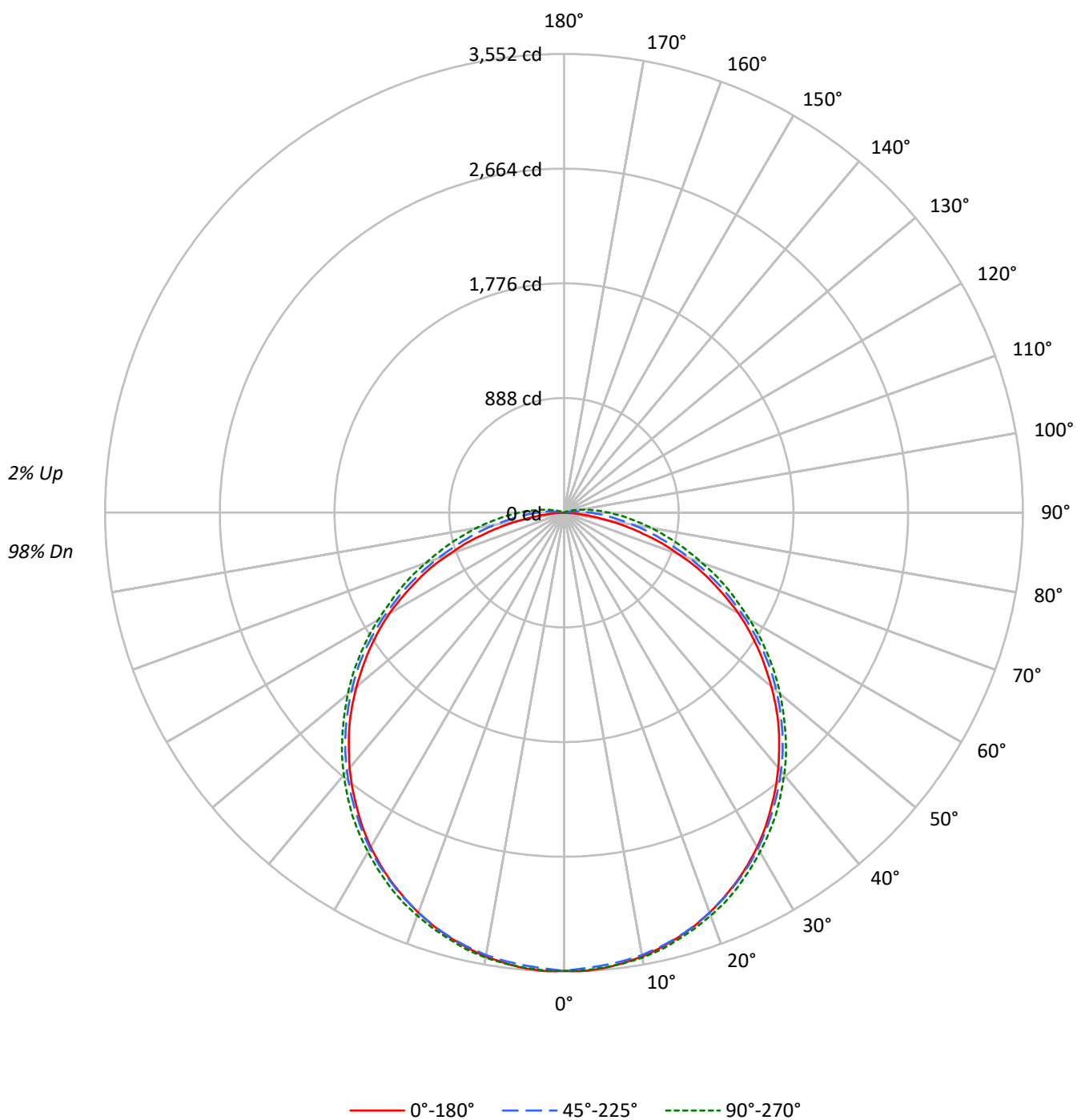
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518246

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

Luminous Intensity Polar Plot



TEST NUMBER: P518246

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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°	7160	7160	7160
5°	7159	7009	7007
10°	7125	6892	6867
15°	7076	6762	6699
20°	7024	6614	6535
25°	6960	6463	6368
30°	6883	6300	6179
35°	6783	6121	5992
40°	6681	5932	5774
45°	6571	5726	5538
50°	6424	5486	5284
55°	6267	5222	5005
60°	6080	4877	4678
65°	5762	4490	4355
70°	5293	4032	3979
75°	4617	3529	3637
80°	3582	3038	3325
85°	2065	2544	3027

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6571 cd/sqm

TEST NUMBER: P518246

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

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	335.7	3.1
10°-20°	963.0	9.0
20°-30°	1461.2	13.6
30°-40°	1766.9	16.5
40°-50°	1843.6	17.2
50°-60°	1685.6	15.7
60°-70°	1314.0	12.2
70°-80°	822.0	7.7
80°-90°	373.3	3.5
90°-100°	125.1	1.2
100°-110°	31.4	0.3
110°-120°	4.9	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°	2760.0	25.7
0°-40°	4526.9	42.2
0°-60°	8056.1	75.1
0°-90°	10565.5	98.5
90°-120°	161.5	1.5
90°-150°	161.5	1.5
90°-180°	161.0	1.5
0°-180°	10727.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3548	3548	3548	3548	3548	
5°	3540	3534	3518	3534	3534	336
15°	3406	3412	3402	3422	3421	961
25°	3156	3158	3161	3188	3193	1454
35°	2793	2806	2818	2846	2858	1748
45°	2350	2371	2390	2414	2425	1811
55°	1834	1856	1890	1918	1930	1639
65°	1260	1282	1326	1379	1401	1247
75°	638	678	776	869	902	680
85°	110	204	350	463	504	140
90°	1	76	207	310	348	4
95°	1	20	107	194	224	1
105°	2	2	18	52	69	2
115°	2	2	3	9	13	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: P518246

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

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3547.8	3547.8	3547.8	3547.8	3547.8
2.5°	3552.0	3547.0	3531.1	3547.0	3546.2
5°	3540.3	3533.6	3517.7	3534.5	3534.5
7.5°	3516.9	3514.4	3500.2	3519.4	3519.4
10°	3489.3	3488.5	3476.8	3497.7	3498.5
12.5°	3450.8	3454.2	3443.3	3463.4	3465.9
15°	3405.7	3411.5	3402.3	3421.6	3420.7
17.5°	3356.3	3359.7	3353.0	3374.7	3373.9
20°	3295.3	3299.4	3294.4	3317.0	3319.5
22.5°	3227.5	3233.4	3232.5	3256.0	3262.6
25°	3155.6	3158.1	3161.4	3188.2	3193.2
27.5°	3076.1	3080.3	3086.2	3110.4	3115.4
30°	2989.2	2995.8	3002.5	3027.6	3034.3
32.5°	2897.2	2903.8	2912.2	2944.8	2948.2
35°	2793.4	2806.0	2817.7	2846.1	2857.8
37.5°	2689.7	2705.6	2716.5	2746.6	2755.8
40°	2580.2	2596.1	2613.6	2645.4	2651.3
42.5°	2465.6	2484.0	2504.9	2533.3	2543.4
45°	2350.2	2371.1	2390.3	2413.7	2425.4
47.5°	2225.6	2246.5	2269.9	2296.6	2304.2
50°	2096.8	2121.0	2146.1	2171.2	2184.6
52.5°	1964.6	1993.9	2022.3	2049.1	2061.6
55°	1834.1	1855.9	1890.2	1917.8	1930.3
57.5°	1698.6	1717.0	1748.0	1793.2	1799.8
60°	1560.6	1577.4	1609.2	1646.0	1661.0
62.5°	1408.4	1431.0	1464.5	1511.3	1524.7
65°	1260.4	1282.1	1326.5	1379.2	1400.9
67.5°	1117.4	1124.9	1181.8	1237.0	1272.1
70°	948.4	976.9	1042.9	1110.7	1137.5
72.5°	802.9	831.3	904.1	983.6	1017.0
75°	638.1	677.5	776.1	869.0	901.6
77.5°	493.5	536.9	659.1	752.7	790.4
80°	344.6	412.3	545.3	650.7	691.7
82.5°	216.6	300.3	442.4	552.8	588.8
85°	110.4	204.1	350.4	463.3	504.3
87.5°	29.3	132.1	272.7	380.5	422.4
90°	0.8	76.1	206.6	310.3	347.9
92.5°	0.8	42.7	153.9	246.7	285.2
95°	0.8	20.1	107.1	194.0	224.1
97.5°	0.8	8.4	73.6	146.4	176.5
100°	0.8	4.2	46.8	106.2	132.1
102.5°	1.7	2.5	29.3	76.1	97.0
105°	1.7	2.5	17.6	51.9	69.4
107.5°	1.7	2.5	10.0	35.1	47.7
110°	2.5	2.5	5.9	21.7	31.8

TEST NUMBER: P518246

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

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.5	2.5	3.3	14.2	20.9
115°	2.5	2.5	3.3	9.2	13.4
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)