

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: P518249

Luminaire Tested: HVL8-8-LD4-2STD-50-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: P518249
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-50-UNV-O-EDD-90
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 5000K, 90 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11295.0 lumens
Efficiency: N/A
Efficacy: 86.4 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

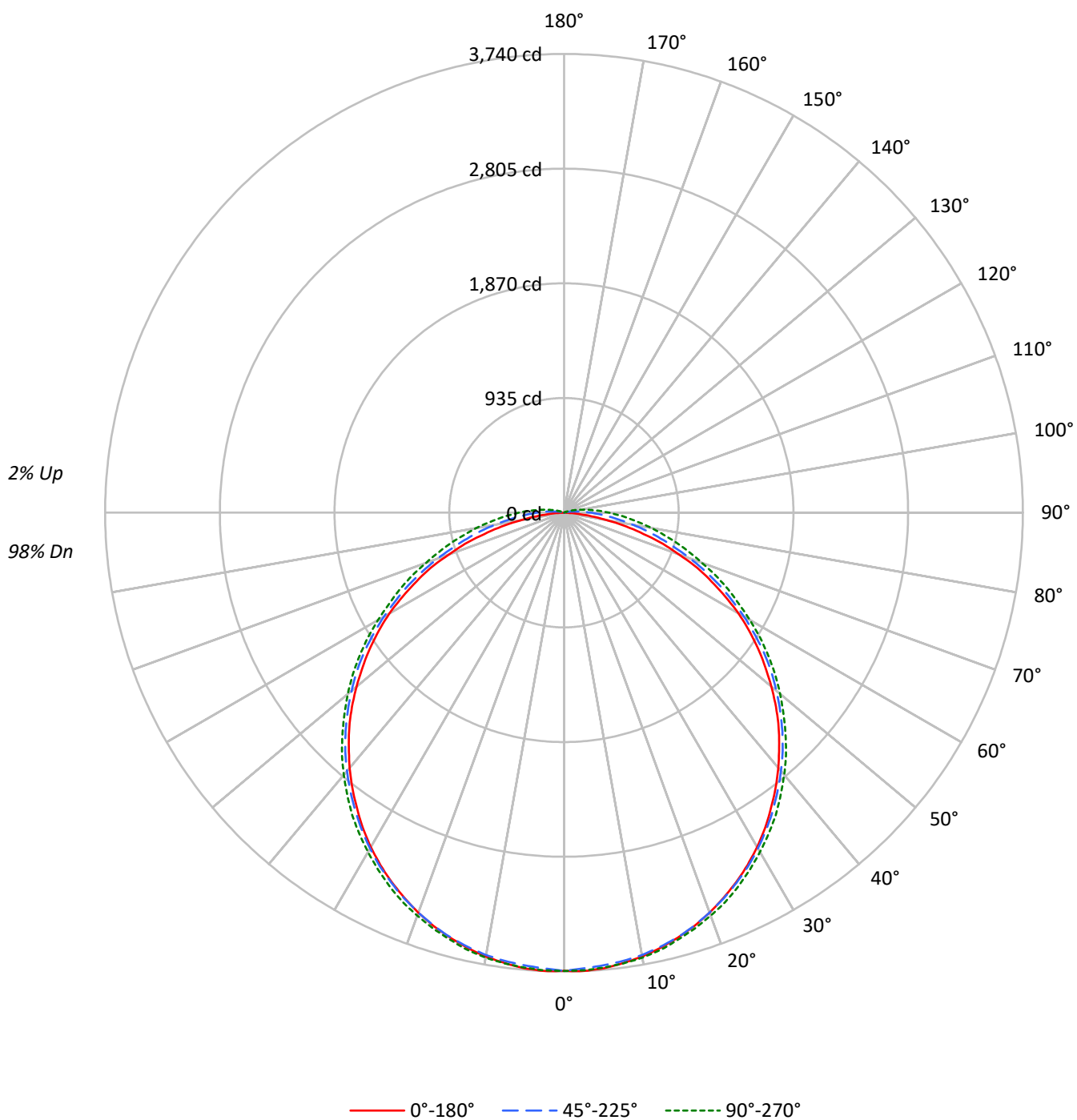
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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: P518249

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-O-EDD-90

Luminous Intensity Polar Plot



TEST NUMBER: P518249

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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°	7540	7540	7540
5°	7539	7380	7378
10°	7502	7257	7230
15°	7451	7120	7053
20°	7396	6965	6881
25°	7328	6805	6706
30°	7248	6634	6506
35°	7143	6445	6309
40°	7035	6246	6079
45°	6919	6029	5831
50°	6764	5776	5564
55°	6599	5499	5270
60°	6402	5136	4926
65°	6067	4728	4586
70°	5574	4246	4189
75°	4861	3716	3829
80°	3771	3199	3501
85°	2173	2679	3187

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6919 cd/sqm

TEST NUMBER: P518249

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-O-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	353.5	3.1
10°-20°	1014.0	9.0
20°-30°	1538.6	13.6
30°-40°	1860.5	16.5
40°-50°	1941.2	17.2
50°-60°	1774.9	15.7
60°-70°	1383.6	12.2
70°-80°	865.5	7.7
80°-90°	393.1	3.5
90°-100°	131.7	1.2
100°-110°	33.1	0.3
110°-120°	5.2	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°	2906.2	25.7
0°-40°	4766.6	42.2
0°-60°	8482.7	75.1
0°-90°	11125.0	98.5
90°-120°	170.0	1.5
90°-150°	170.0	1.5
90°-180°	170.0	1.5
0°-180°	11295.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3736	3736	3736	3736	3736	
5°	3728	3721	3704	3722	3722	354
15°	3586	3592	3582	3603	3602	1012
25°	3323	3325	3329	3357	3362	1531
35°	2941	2955	2967	2997	3009	1841
45°	2475	2497	2517	2542	2554	1907
55°	1931	1954	1990	2019	2032	1725
65°	1327	1350	1397	1452	1475	1313
75°	672	713	817	915	949	716
85°	116	215	369	488	531	147
90°	1	80	218	327	366	5
95°	1	21	113	204	236	1
105°	2	3	18	55	73	2
115°	3	3	4	10	14	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: P518249

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3735.7	3735.7	3735.7	3735.7	3735.7
2.5°	3740.1	3734.8	3718.1	3734.8	3733.9
5°	3727.8	3720.7	3704.0	3721.6	3721.6
7.5°	3703.1	3700.5	3685.5	3705.8	3705.8
10°	3674.1	3673.2	3660.8	3682.9	3683.7
12.5°	3633.5	3637.1	3625.6	3646.8	3649.4
15°	3586.0	3592.2	3582.5	3602.7	3601.8
17.5°	3534.0	3537.6	3530.5	3553.4	3552.5
20°	3469.7	3474.2	3468.9	3492.6	3495.3
22.5°	3398.4	3404.6	3403.7	3428.4	3435.4
25°	3322.7	3325.3	3328.8	3357.0	3362.3
27.5°	3239.0	3243.4	3249.6	3275.1	3280.4
30°	3147.4	3154.5	3161.5	3187.9	3195.0
32.5°	3050.6	3057.6	3066.4	3100.8	3104.3
35°	2941.4	2954.6	2966.9	2996.8	3009.2
37.5°	2832.2	2848.9	2860.3	2892.0	2901.7
40°	2716.8	2733.5	2752.0	2785.5	2791.7
42.5°	2596.1	2615.5	2637.5	2667.5	2678.0
45°	2474.6	2496.6	2516.9	2541.5	2553.9
47.5°	2343.4	2365.4	2390.1	2418.3	2426.2
50°	2207.8	2233.3	2259.7	2286.2	2300.2
52.5°	2068.6	2099.5	2129.4	2157.6	2170.8
55°	1931.3	1954.2	1990.3	2019.3	2032.5
57.5°	1788.6	1808.0	1840.6	1888.1	1895.2
60°	1643.3	1660.9	1694.4	1733.1	1749.0
62.5°	1483.0	1506.8	1542.0	1591.3	1605.4
65°	1327.1	1350.0	1396.7	1452.2	1475.1
67.5°	1176.5	1184.5	1244.4	1302.5	1339.5
70°	998.7	1028.6	1098.2	1169.5	1197.7
72.5°	845.4	875.4	952.0	1035.6	1070.9
75°	671.9	713.3	817.2	915.0	949.3
77.5°	519.6	565.4	693.9	792.6	832.2
80°	362.8	434.2	574.2	685.1	728.3
82.5°	228.1	316.2	465.9	582.1	620.0
85°	116.2	214.9	369.0	487.9	531.0
87.5°	30.8	139.1	287.1	400.7	444.7
90°	0.9	80.1	217.5	326.7	366.3
92.5°	0.9	44.9	162.0	259.8	300.3
95°	0.9	21.1	112.7	204.3	236.0
97.5°	0.9	8.8	77.5	154.1	185.8
100°	0.9	4.4	49.3	111.8	139.1
102.5°	1.8	2.6	30.8	80.1	102.2
105°	1.8	2.6	18.5	54.6	73.1
107.5°	1.8	2.6	10.6	37.0	50.2
110°	2.6	2.6	6.2	22.9	33.5

TEST NUMBER: P518249

CATALOG NUMBER: HVL8-8-LD4-2STD-50-UNV-O-EDD-90

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.6	2.6	3.5	15.0	22.0
115°	2.6	2.6	3.5	9.7	14.1
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)