

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: P518236

Luminaire Tested: HVL8-8-LD4-2STD-30-UNV-C-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: P518236
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL8-8-LD4-2STD-30-UNV-C-EDD
Description: 8 FOOT, 8 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11527.1 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 8' x H: 0.17')
CIE Type: Direct

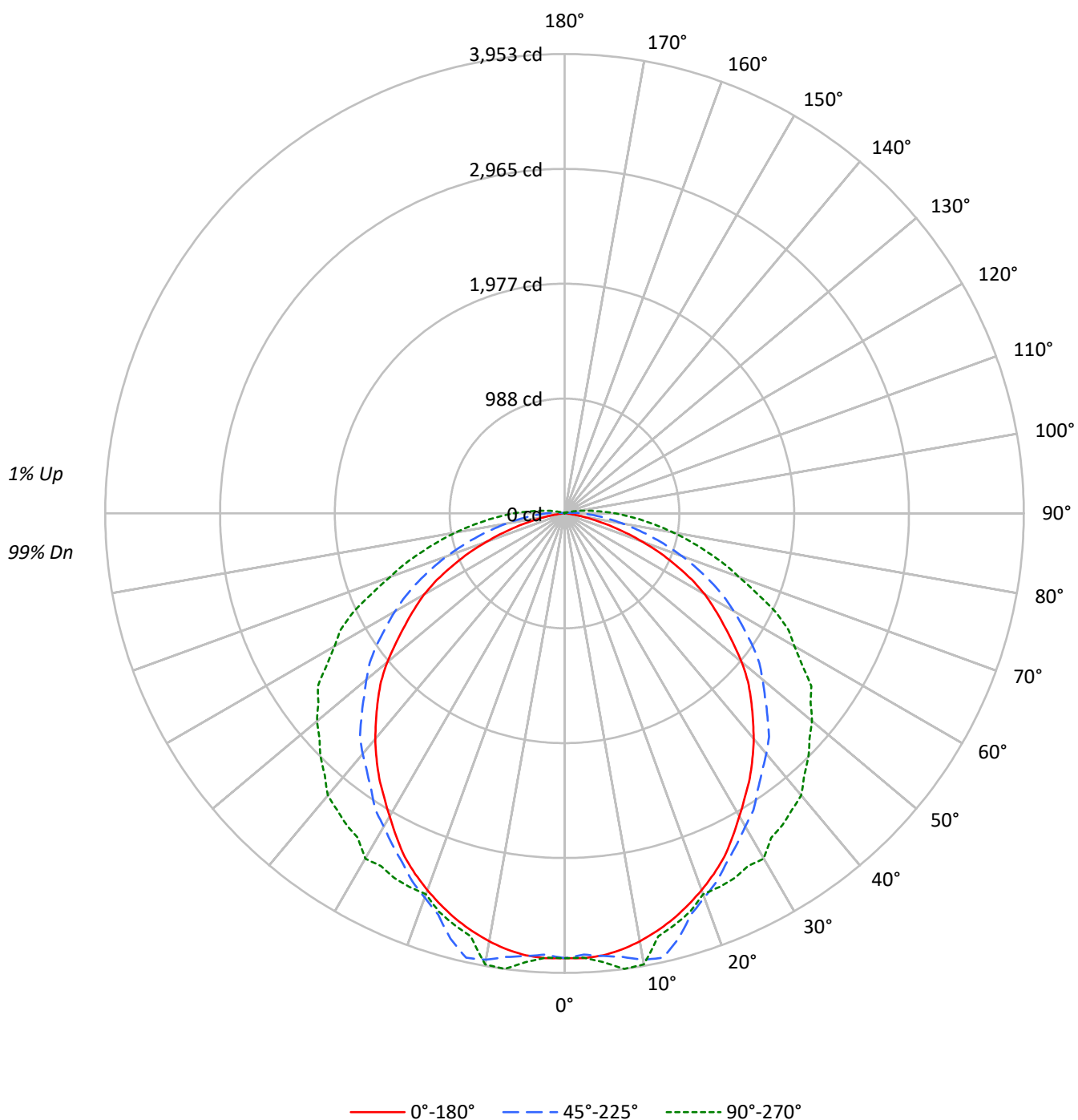
Input Watts (W): 130.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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			99
1	108	103	98	94	105	100	96	92	96	92	89	91	89	86	87	85	83			81
2	98	89	82	76	95	87	80	75	83	78	73	80	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	51	62	56	51	60	54	50			47
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43			41
6	69	55	46	39	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°	7722	7722	7722
5°	7719	7616	7685
10°	7631	7729	7732
15°	7507	7529	7177
20°	7352	7061	6864
25°	7187	6764	6907
30°	6930	6526	6983
35°	6752	6301	6859
40°	6559	6134	6902
45°	6353	5917	6777
50°	6099	5688	6725
55°	5718	5444	6722
60°	5436	5105	6435
65°	4842	4699	6230
70°	3993	4168	5586
75°	2898	3520	5100
80°	1677	2866	4578
85°	671	2190	4033

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 45°

Luminance: 6777 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	367.7	3.2
10°-20°	1047.3	9.1
20°-30°	1558.2	13.5
30°-40°	1873.0	16.2
40°-50°	1971.4	17.1
50°-60°	1829.3	15.9
60°-70°	1446.4	12.5
70°-80°	883.5	7.7
80°-90°	384.9	3.3
90°-100°	119.8	1.0
100°-110°	26.9	0.2
110°-120°	10.8	0.1
120°-130°	6.1	0.1
130°-140°	1.7	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°	2973.3	25.8
0°-40°	4846.2	42.0
0°-60°	8647.0	75.0
0°-90°	11361.7	98.6
90°-120°	157.6	1.4
90°-150°	165.4	1.4
90°-180°	165.0	1.4
0°-180°	11527.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3826	3826	3826	3826	3826	
5°	3817	3809	3822	3865	3876	362
15°	3613	3752	3788	3663	3665	1018
25°	3259	3467	3309	3408	3463	1496
35°	2780	2858	2900	3164	3271	1738
45°	2272	2282	2470	2861	2968	1751
55°	1674	1701	1970	2402	2592	1504
65°	1059	1093	1388	1837	2004	1049
75°	401	531	774	1189	1264	437
85°	36	125	302	585	672	55
90°	1	37	158	371	437	2
95°	1	9	69	203	249	1
105°	1	6	14	40	56	1
115°	1	3	11	18	19	1
125°	1	2	5	12	16	1
135°	2	2	2	4	6	1
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

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3826.3	3826.3	3826.3	3826.3	3826.3
2.5°	3831.0	3820.9	3799.8	3820.1	3825.6
5°	3817.0	3809.2	3822.4	3865.3	3876.2
7.5°	3785.0	3814.6	3849.7	3927.7	3952.6
10°	3737.5	3793.6	3898.8	3965.1	3939.4
12.5°	3679.8	3774.9	3916.0	3786.6	3726.6
15°	3612.8	3751.5	3788.1	3662.7	3665.0
17.5°	3534.0	3732.0	3619.0	3615.9	3593.3
20°	3449.1	3666.5	3516.9	3510.7	3486.5
22.5°	3357.9	3580.0	3426.5	3414.0	3479.5
25°	3258.9	3467.0	3308.8	3407.8	3463.1
27.5°	3135.0	3318.9	3210.6	3350.9	3420.2
30°	3009.5	3166.1	3110.0	3305.7	3428.8
32.5°	2891.8	3006.4	3027.4	3288.5	3308.8
35°	2780.3	2857.5	2900.3	3163.8	3271.4
37.5°	2657.9	2679.0	2792.8	3111.6	3215.2
40°	2533.2	2520.0	2702.4	3025.8	3169.3
42.5°	2399.2	2394.5	2606.5	2983.0	3054.7
45°	2272.1	2282.2	2470.1	2861.4	2968.2
47.5°	2141.9	2155.2	2340.7	2728.1	2860.6
50°	1990.7	2007.9	2225.3	2609.6	2780.3
52.5°	1827.0	1859.8	2113.1	2497.4	2669.6
55°	1673.5	1700.8	1970.5	2401.5	2592.5
57.5°	1533.2	1549.6	1823.1	2280.7	2424.9
60°	1395.2	1399.1	1684.4	2146.6	2284.6
62.5°	1237.0	1244.0	1541.8	1988.4	2173.1
65°	1059.3	1092.8	1388.2	1837.2	2004.0
67.5°	893.3	951.7	1231.5	1698.4	1785.7
70°	715.5	814.5	1078.0	1535.5	1597.1
72.5°	552.6	668.8	920.5	1353.1	1439.7
75°	400.6	530.8	774.0	1189.4	1264.3
77.5°	269.7	402.2	636.8	1008.6	1107.6
80°	161.3	293.9	514.4	841.0	952.5
82.5°	82.6	197.2	399.1	705.4	805.2
85°	35.9	124.7	301.6	585.4	671.9
87.5°	10.1	70.9	222.1	473.1	546.4
90°	0.8	37.4	158.2	371.0	437.3
92.5°	0.8	17.9	111.5	280.6	331.3
95°	0.8	9.4	69.4	203.4	248.6
97.5°	0.8	5.5	42.1	144.2	182.4
100°	0.8	4.7	24.9	95.9	130.2
102.5°	0.8	5.5	17.1	60.8	85.0
105°	0.8	5.5	14.0	39.8	56.1
107.5°	1.6	5.5	12.5	29.6	39.0
110°	0.8	4.7	13.3	22.6	30.4

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	3.9	12.5	18.7	22.6
115°	0.8	3.1	10.9	17.9	18.7
117.5°	1.6	2.3	8.6	17.9	18.7
120°	1.6	1.6	7.0	17.1	19.5
122.5°	1.6	1.6	5.5	15.6	18.7
125°	0.8	1.6	4.7	11.7	16.4
127.5°	1.6	1.6	3.9	9.4	12.5
130°	1.6	1.6	3.1	7.0	9.4
132.5°	1.6	1.6	2.3	5.5	7.0
135°	1.6	1.6	1.6	3.9	5.5
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)