

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: P517660

Luminaire Tested: HVL12-8-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: P517660
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-30-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 3000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12035.0 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.32 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 8' x H: 0.17')
CIE Type: Direct

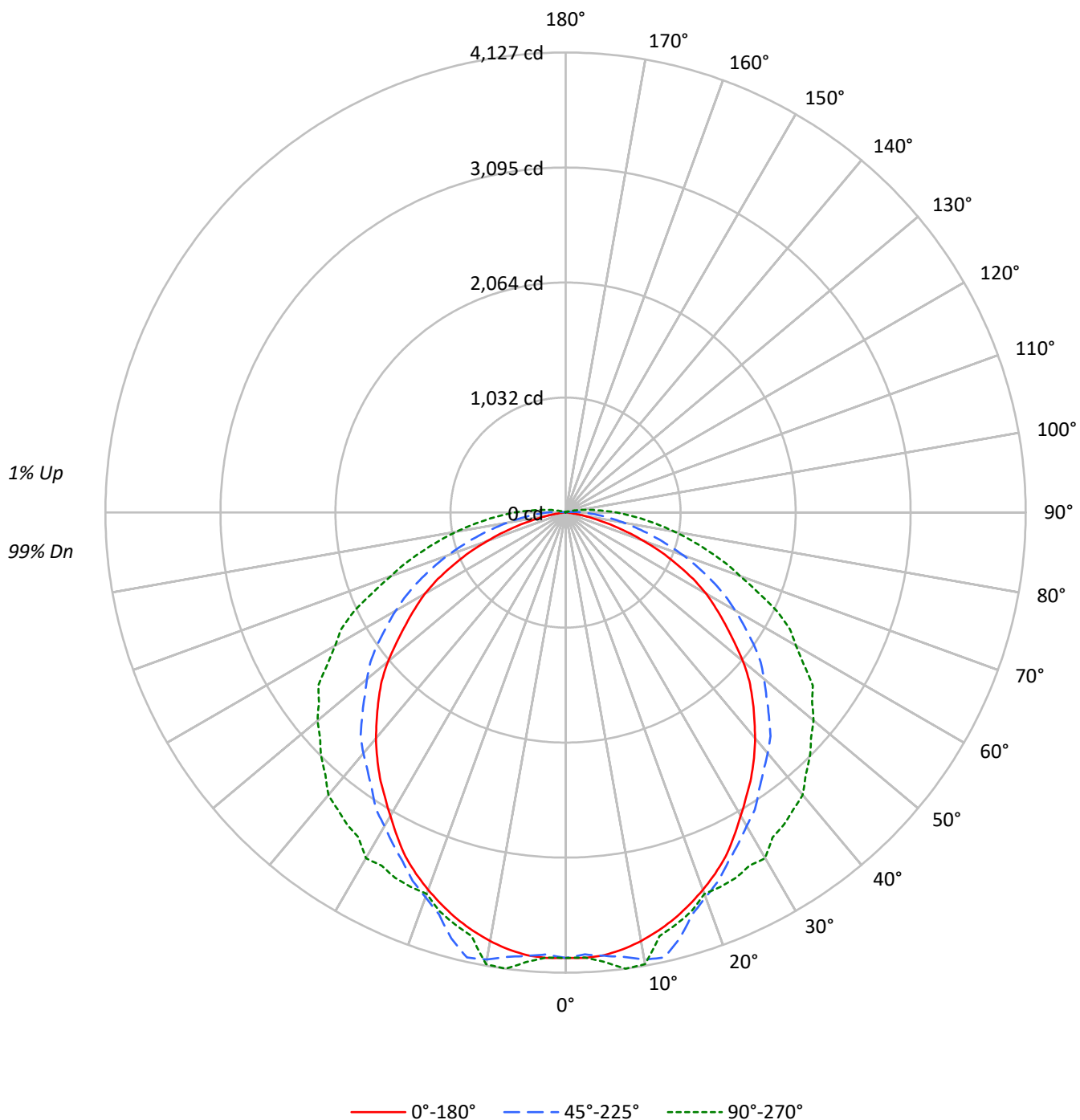
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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

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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°	5375	5375	5375
5°	5373	5328	5387
10°	5312	5434	5459
15°	5225	5320	5102
20°	5117	5015	4914
25°	5003	4830	4981
30°	4824	4686	5074
35°	4699	4551	5024
40°	4566	4459	5099
45°	4422	4333	5054
50°	4245	4200	5069
55°	3980	4058	5128
60°	3783	3848	4981
65°	3371	3593	4907
70°	2780	3245	4499
75°	2018	2810	4230
80°	1168	2375	3961
85°	466	1932	3727

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 5128 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	384.0	3.2
10°-20°	1093.4	9.1
20°-30°	1626.9	13.5
30°-40°	1955.5	16.2
40°-50°	2058.3	17.1
50°-60°	1909.9	15.9
60°-70°	1510.1	12.5
70°-80°	922.4	7.7
80°-90°	401.9	3.3
90°-100°	125.1	1.0
100°-110°	28.1	0.2
110°-120°	11.3	0.1
120°-130°	6.3	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°	3104.3	25.8
0°-40°	5059.8	42.0
0°-60°	9028.0	75.0
0°-90°	11862.4	98.6
90°-120°	164.5	1.4
90°-150°	172.6	1.4
90°-180°	173.0	1.4
0°-180°	12035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3995	3995	3995	3995	3995	
5°	3985	3977	3991	4036	4047	378
15°	3772	3917	3955	3824	3826	1063
25°	3402	3620	3455	3558	3616	1562
35°	2903	2983	3028	3303	3416	1814
45°	2372	2383	2579	2988	3099	1829
55°	1747	1776	2057	2507	2707	1570
65°	1106	1141	1449	1918	2092	1095
75°	418	554	808	1242	1320	457
85°	37	130	315	611	702	58
90°	1	39	165	387	456	2
95°	1	10	72	212	260	1
105°	1	6	15	42	59	1
115°	1	3	11	19	20	1
125°	1	2	5	12	17	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°	3995.0	3995.0	3995.0	3995.0	3995.0
2.5°	3999.8	3989.3	3967.3	3988.5	3994.2
5°	3985.2	3977.1	3990.9	4035.7	4047.0
7.5°	3951.8	3982.8	4019.4	4100.8	4126.8
10°	3902.2	3960.8	4070.6	4139.8	4113.0
12.5°	3842.0	3941.3	4088.6	3953.5	3890.8
15°	3772.0	3916.8	3955.1	3824.1	3826.5
17.5°	3689.8	3896.5	3778.5	3775.2	3751.6
20°	3601.1	3828.1	3671.9	3665.4	3640.1
22.5°	3505.9	3737.8	3577.5	3564.5	3632.8
25°	3402.5	3619.8	3454.6	3558.0	3615.7
27.5°	3273.1	3465.2	3352.1	3498.5	3571.0
30°	3142.1	3305.7	3247.1	3451.3	3579.9
32.5°	3019.2	3138.8	3160.8	3433.4	3454.6
35°	2902.8	2983.4	3028.2	3303.2	3415.5
37.5°	2775.1	2797.0	2915.9	3248.7	3356.9
40°	2644.9	2631.0	2821.5	3159.2	3308.9
42.5°	2504.9	2500.0	2721.4	3114.4	3189.3
45°	2372.2	2382.8	2578.9	2987.5	3099.0
47.5°	2236.3	2250.2	2443.9	2848.3	2986.7
50°	2078.5	2096.4	2323.4	2724.6	2902.8
52.5°	1907.6	1941.7	2206.2	2607.4	2787.3
55°	1747.2	1775.7	2057.3	2507.3	2706.7
57.5°	1600.8	1617.8	1903.5	2381.2	2531.7
60°	1456.7	1460.8	1758.6	2241.2	2385.3
62.5°	1291.5	1298.8	1609.7	2076.0	2268.9
65°	1106.0	1141.0	1449.4	1918.1	2092.3
67.5°	932.6	993.7	1285.8	1773.3	1864.4
70°	747.1	850.4	1125.5	1603.2	1667.5
72.5°	577.0	698.2	961.1	1412.8	1503.1
75°	418.3	554.2	808.1	1241.9	1320.0
77.5°	281.6	419.9	664.9	1053.1	1156.4
80°	168.5	306.8	537.1	878.1	994.5
82.5°	86.3	205.9	416.7	736.5	840.7
85°	37.4	130.2	314.9	611.2	701.5
87.5°	10.6	74.1	231.9	494.0	570.5
90°	0.8	39.1	165.2	387.4	456.5
92.5°	0.8	18.7	116.4	293.0	345.9
95°	0.8	9.8	72.4	212.4	259.6
97.5°	0.8	5.7	43.9	150.6	190.4
100°	0.8	4.9	26.0	100.1	135.9
102.5°	0.8	5.7	17.9	63.5	88.7
105°	0.8	5.7	14.6	41.5	58.6
107.5°	1.6	5.7	13.0	30.9	40.7
110°	0.8	4.9	13.8	23.6	31.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.6	4.1	13.0	19.5	23.6
115°	0.8	3.3	11.4	18.7	19.5
117.5°	1.6	2.4	9.0	18.7	19.5
120°	1.6	1.6	7.3	17.9	20.3
122.5°	1.6	1.6	5.7	16.3	19.5
125°	0.8	1.6	4.9	12.2	17.1
127.5°	1.6	1.6	4.1	9.8	13.0
130°	1.6	1.6	3.3	7.3	9.8
132.5°	1.6	1.6	2.4	5.7	7.3
135°	1.6	1.6	1.6	4.1	5.7
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)