

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: P517668

Luminaire Tested: HVL12-8-LD4-2STD-40-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: P517668
Test Lab: INNOVATION CENTER
Issue Date: 4/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: HVL12-8-LD4-2STD-40-UNV-C-EDD
Description: 8 FOOT, 12 INCH WIDE, HVL LED LUMINAIRE, WITH 4000K, 80 CRI LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12368.0 lumens
Efficiency: N/A
Efficacy: 92.1 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

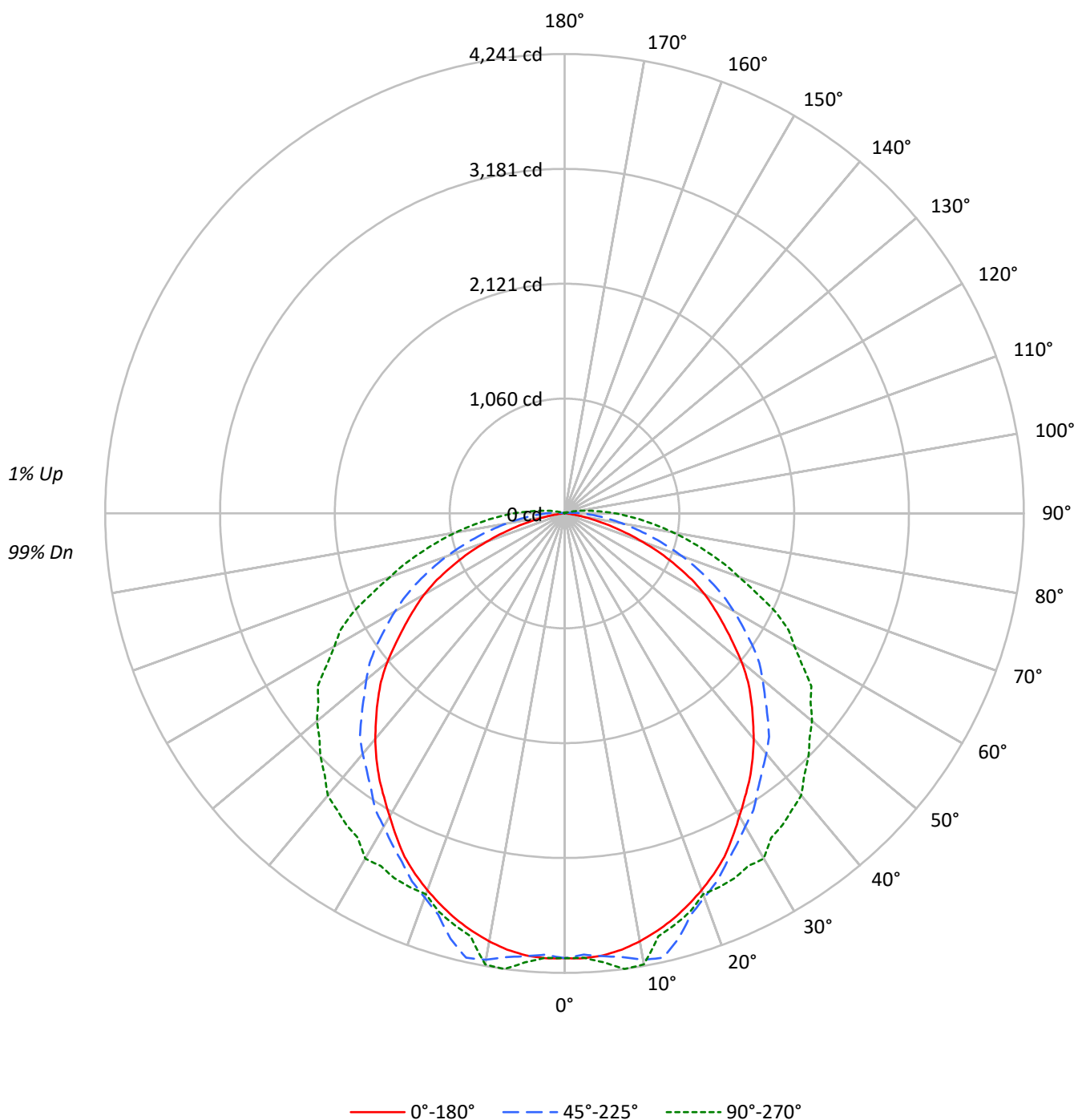
Input Watts (W): 134.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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°	5524	5524	5524
5°	5521	5476	5537
10°	5459	5585	5610
15°	5370	5467	5243
20°	5259	5154	5050
25°	5141	4964	5119
30°	4957	4816	5214
35°	4830	4677	5163
40°	4692	4583	5240
45°	4544	4453	5194
50°	4363	4316	5210
55°	4090	4170	5270
60°	3888	3955	5119
65°	3464	3692	5043
70°	2857	3335	4624
75°	2074	2888	4347
80°	1199	2441	4071
85°	480	1986	3830

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 55°

Luminance: 5270 cd/sqm

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CATALOG NUMBER: HVL12-8-LD4-2STD-40-UNV-C-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	394.6	3.2
10°-20°	1123.7	9.1
20°-30°	1671.9	13.5
30°-40°	2009.6	16.2
40°-50°	2115.3	17.1
50°-60°	1962.7	15.9
60°-70°	1551.9	12.5
70°-80°	947.9	7.7
80°-90°	413.0	3.3
90°-100°	128.6	1.0
100°-110°	28.9	0.2
110°-120°	11.6	0.1
120°-130°	6.5	0.1
130°-140°	1.8	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°	3190.2	25.8
0°-40°	5199.8	42.0
0°-60°	9277.8	75.0
0°-90°	12190.7	98.6
90°-120°	169.1	1.4
90°-150°	177.4	1.4
90°-180°	177.0	1.4
0°-180°	12368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4106	4106	4106	4106	4106	
5°	4096	4087	4101	4147	4159	388
15°	3876	4025	4064	3930	3932	1092
25°	3497	3720	3550	3656	3716	1605
35°	2983	3066	3112	3395	3510	1864
45°	2438	2449	2650	3070	3185	1879
55°	1796	1825	2114	2577	2782	1613
65°	1137	1172	1490	1971	2150	1126
75°	430	570	830	1276	1356	469
85°	38	134	324	628	721	60
90°	1	40	170	398	469	2
95°	1	10	74	218	267	1
105°	1	6	15	43	60	1
115°	1	3	12	19	20	1
125°	1	2	5	12	18	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°	4105.5	4105.5	4105.5	4105.5	4105.5
2.5°	4110.5	4099.6	4077.1	4098.8	4104.7
5°	4095.5	4087.1	4101.3	4147.3	4159.0
7.5°	4061.2	4093.0	4130.6	4214.2	4241.0
10°	4010.2	4070.4	4183.3	4254.4	4226.8
12.5°	3948.3	4050.3	4201.7	4062.9	3998.5
15°	3876.4	4025.2	4064.5	3929.9	3932.4
17.5°	3791.9	4004.3	3883.0	3879.7	3855.4
20°	3700.7	3934.1	3773.5	3766.8	3740.9
22.5°	3602.9	3841.2	3676.5	3663.1	3733.3
25°	3496.7	3720.0	3550.2	3656.4	3715.8
27.5°	3363.7	3561.1	3444.8	3595.3	3669.8
30°	3229.0	3397.1	3336.9	3546.8	3679.0
32.5°	3102.8	3225.7	3248.3	3528.4	3550.2
35°	2983.2	3066.0	3112.0	3394.6	3510.0
37.5°	2851.9	2874.4	2996.5	3338.6	3449.8
40°	2718.0	2703.8	2899.5	3246.6	3400.5
42.5°	2574.2	2569.2	2796.7	3200.6	3277.5
45°	2437.9	2448.7	2650.3	3070.1	3184.7
47.5°	2298.2	2312.4	2511.5	2927.1	3069.3
50°	2136.0	2154.4	2387.7	2800.0	2983.2
52.5°	1960.3	1995.5	2267.3	2679.6	2864.4
55°	1795.6	1824.9	2114.2	2576.7	2781.6
57.5°	1645.0	1662.6	1956.2	2447.1	2601.8
60°	1497.0	1501.2	1807.3	2303.2	2451.3
62.5°	1327.2	1334.8	1654.2	2133.5	2331.7
65°	1136.6	1172.5	1489.5	1971.2	2150.2
67.5°	958.4	1021.1	1321.4	1822.3	1916.0
70°	767.7	874.0	1156.6	1647.6	1713.6
72.5°	593.0	717.6	987.7	1451.9	1544.7
75°	429.9	569.5	830.5	1276.2	1356.5
77.5°	289.4	431.5	683.3	1082.2	1188.4
80°	173.1	315.3	552.0	902.4	1022.0
82.5°	88.7	211.6	428.2	756.9	863.9
85°	38.5	133.8	323.7	628.1	720.9
87.5°	10.9	76.1	238.4	507.6	586.3
90°	0.8	40.1	169.8	398.1	469.2
92.5°	0.8	19.2	119.6	301.1	355.4
95°	0.8	10.0	74.4	218.3	266.8
97.5°	0.8	5.9	45.2	154.7	195.7
100°	0.8	5.0	26.8	102.9	139.7
102.5°	0.8	5.9	18.4	65.2	91.2
105°	0.8	5.9	15.1	42.7	60.2
107.5°	1.7	5.9	13.4	31.8	41.8
110°	0.8	5.0	14.2	24.3	32.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	4.2	13.4	20.1	24.3
115°	0.8	3.3	11.7	19.2	20.1
117.5°	1.7	2.5	9.2	19.2	20.1
120°	1.7	1.7	7.5	18.4	20.9
122.5°	1.7	1.7	5.9	16.7	20.1
125°	0.8	1.7	5.0	12.5	17.6
127.5°	1.7	1.7	4.2	10.0	13.4
130°	1.7	1.7	3.3	7.5	10.0
132.5°	1.7	1.7	2.5	5.9	7.5
135°	1.7	1.7	1.7	4.2	5.9
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)