

Scaled data based on original data using
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: P560829

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560829
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1HI-40-UNV-80-96-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4079.0 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

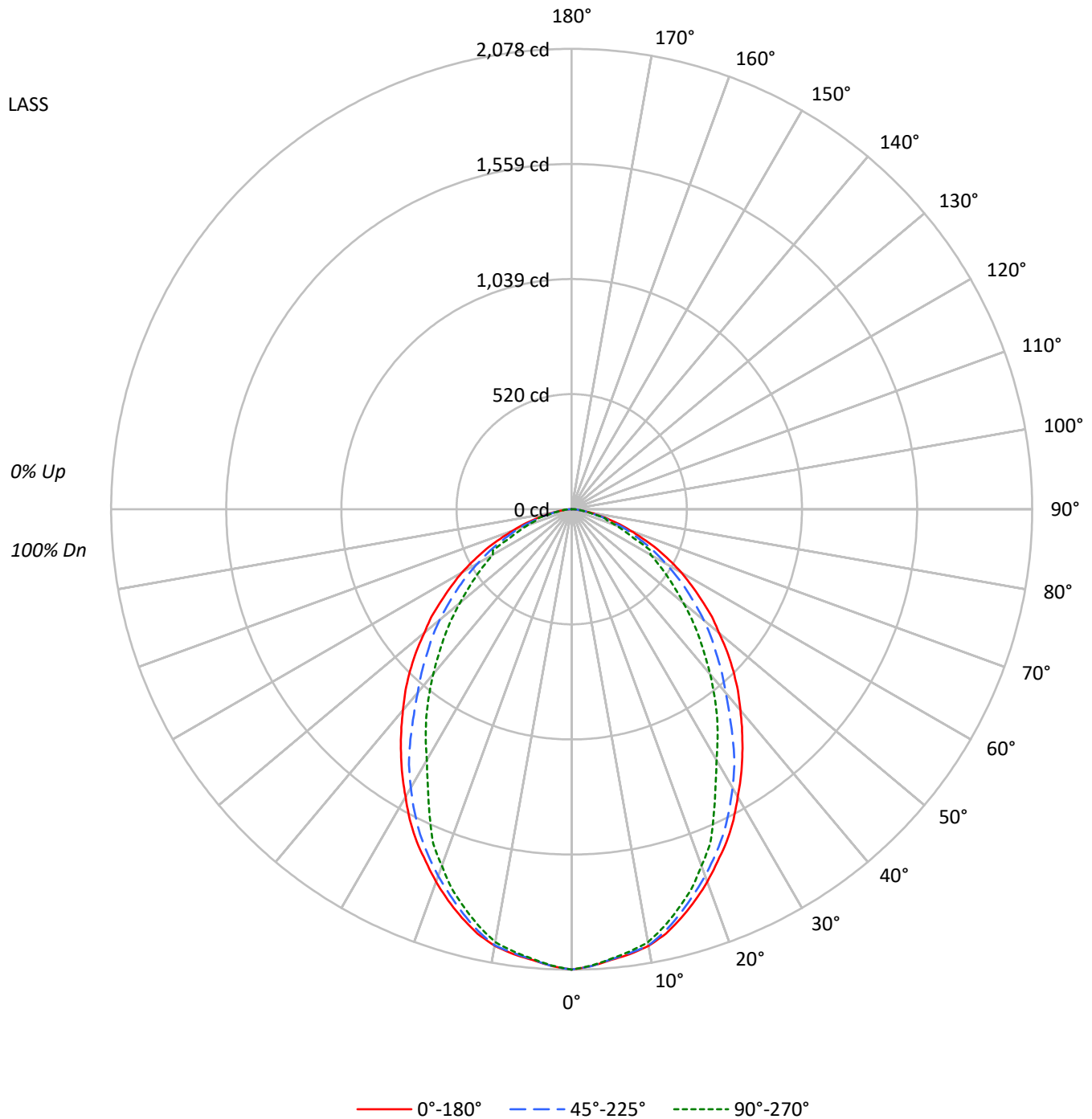
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5591	5591	5591
5°	5515	5509	5502
10°	5467	5461	5422
15°	5320	5266	5193
20°	5125	5042	4905
25°	4914	4807	4507
30°	4657	4508	4060
35°	4411	4166	3756
40°	4160	3797	3417
45°	3922	3510	3090
50°	3630	3258	2756
55°	3358	2952	2468
60°	3077	2637	2211
65°	2707	2309	1958
70°	2230	2022	1663
75°	1773	1548	1623
80°	1192	1117	1043
85°	741	889	1037

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3922 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.4	4.7
10°-20°	530.8	13.0
20°-30°	734.9	18.0
30°-40°	783.6	19.2
40°-50°	714.9	17.5
50°-60°	560.0	13.7
60°-70°	365.0	8.9
70°-80°	161.7	4.0
80°-90°	34.7	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	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°	1459.1	35.8
0°-40°	2242.7	55.0
0°-60°	3517.6	86.2
0°-90°	4079.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4079.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2078	2078	2078	2078	2078	
5°	2042	2039	2039	2037	2037	194
15°	1910	1910	1890	1871	1864	537
25°	1655	1645	1619	1561	1518	760
35°	1343	1333	1268	1172	1143	839
45°	1030	1009	922	846	812	794
55°	716	694	629	555	526	642
65°	425	401	363	370	308	419
75°	170	158	149	142	156	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2077.8	2077.8	2077.8	2077.8	2077.8
2.5°	2063.4	2063.4	2063.4	2061.0	2061.0
5°	2041.8	2039.4	2039.4	2037.0	2037.0
7.5°	2024.9	2022.5	2020.1	2017.7	2012.9
10°	2000.9	2000.9	1998.5	1986.5	1984.1
12.5°	1962.5	1960.1	1950.5	1933.7	1928.9
15°	1909.6	1909.6	1890.4	1871.2	1864.0
17.5°	1852.0	1849.6	1825.6	1806.4	1796.7
20°	1789.5	1784.7	1760.7	1729.5	1712.7
22.5°	1719.9	1719.9	1691.1	1650.2	1633.4
25°	1655.0	1645.4	1619.0	1561.3	1518.1
27.5°	1580.6	1566.1	1537.3	1455.7	1405.2
30°	1498.9	1491.7	1450.8	1345.2	1306.7
32.5°	1422.0	1410.0	1366.8	1256.3	1225.1
35°	1342.8	1333.1	1268.3	1172.2	1143.4
37.5°	1263.5	1251.5	1169.8	1092.9	1056.9
40°	1184.2	1169.8	1080.9	1011.3	972.8
42.5°	1109.8	1090.5	1004.1	929.6	886.4
45°	1030.5	1008.9	922.4	845.5	811.9
47.5°	951.2	932.0	852.7	773.5	735.0
50°	867.1	850.3	778.3	699.0	658.2
52.5°	797.5	771.1	701.4	622.1	588.5
55°	715.8	694.2	629.3	554.9	526.1
57.5°	641.4	619.7	559.7	490.0	466.0
60°	571.7	540.5	490.0	430.0	410.8
62.5°	494.8	470.8	427.6	377.1	401.1
65°	425.2	401.1	362.7	369.9	307.5
67.5°	348.3	336.3	302.7	269.0	259.4
70°	283.4	269.0	257.0	221.0	211.4
72.5°	225.8	211.4	194.6	175.4	168.1
75°	170.5	158.5	148.9	141.7	156.1
77.5°	117.7	112.9	105.7	98.5	96.1
80°	76.9	74.5	72.1	69.7	67.3
82.5°	45.6	45.6	45.6	45.6	45.6
85°	24.0	26.4	28.8	31.2	33.6
87.5°	14.4	14.4	16.8	19.2	21.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)