

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: P560821

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-80-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560821
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-80-86-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3987.0 lumens
Efficiency: N/A
Efficacy: 92.3 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

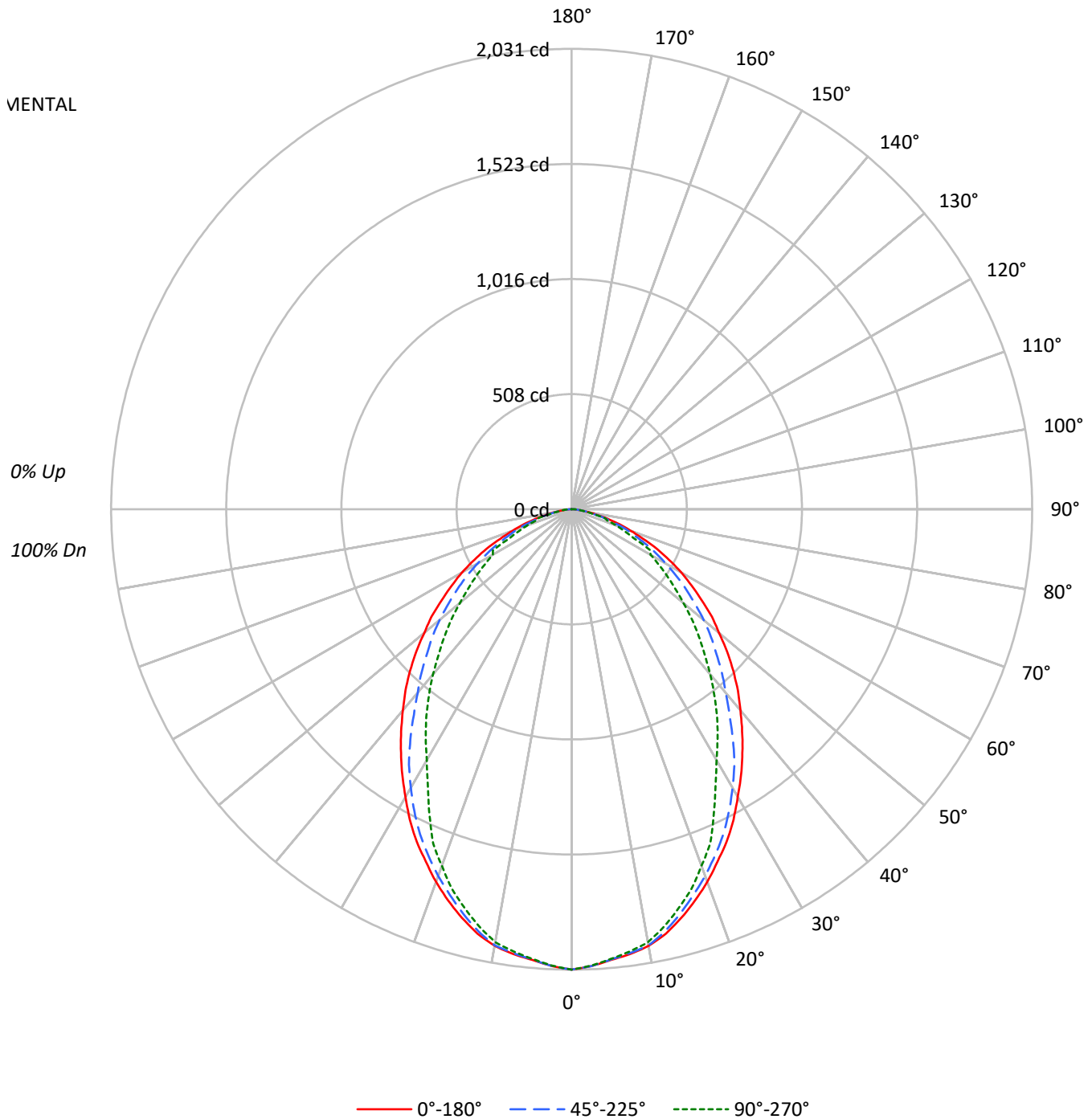
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5465	5465	5465
5°	5391	5385	5378
10°	5344	5338	5299
15°	5200	5148	5076
20°	5009	4928	4794
25°	4803	4699	4406
30°	4552	4406	3969
35°	4312	4073	3671
40°	4066	3712	3340
45°	3833	3431	3020
50°	3548	3185	2693
55°	3283	2886	2412
60°	3007	2578	2161
65°	2646	2257	1913
70°	2180	1976	1626
75°	1733	1514	1587
80°	1164	1091	1018
85°	726	871	1016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3833 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.1	4.7
10°-20°	518.8	13.0
20°-30°	718.3	18.0
30°-40°	765.9	19.2
40°-50°	698.7	17.5
50°-60°	547.4	13.7
60°-70°	356.8	8.9
70°-80°	158.1	4.0
80°-90°	33.9	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°	1426.2	35.8
0°-40°	2192.1	55.0
0°-60°	3438.2	86.2
0°-90°	3987.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3987.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2031	2031	2031	2031	2031	
5°	1996	1993	1993	1991	1991	189
15°	1867	1867	1848	1829	1822	525
25°	1618	1608	1582	1526	1484	743
35°	1312	1303	1240	1146	1118	821
45°	1007	986	902	826	794	776
55°	700	678	615	542	514	628
65°	416	392	354	362	300	410
75°	167	155	146	138	153	179
85°	24	26	28	30	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2030.9	2030.9	2030.9	2030.9	2030.9
2.5°	2016.8	2016.8	2016.8	2014.5	2014.5
5°	1995.7	1993.4	1993.4	1991.0	1991.0
7.5°	1979.3	1976.9	1974.6	1972.2	1967.5
10°	1955.8	1955.8	1953.4	1941.7	1939.4
12.5°	1918.2	1915.9	1906.5	1890.1	1885.4
15°	1866.6	1866.6	1847.8	1829.0	1822.0
17.5°	1810.2	1807.9	1784.4	1765.6	1756.2
20°	1749.2	1744.5	1721.0	1690.5	1674.0
22.5°	1681.1	1681.1	1652.9	1613.0	1596.6
25°	1617.7	1608.3	1582.5	1526.1	1483.9
27.5°	1544.9	1530.8	1502.6	1422.8	1373.5
30°	1465.1	1458.0	1418.1	1314.8	1277.3
32.5°	1390.0	1378.2	1335.9	1227.9	1197.4
35°	1312.5	1303.1	1239.7	1145.8	1117.6
37.5°	1235.0	1223.3	1143.4	1068.3	1033.1
40°	1157.5	1143.4	1056.6	988.5	950.9
42.5°	1084.7	1065.9	981.4	908.6	866.4
45°	1007.2	986.1	901.6	826.5	793.6
47.5°	929.8	911.0	833.5	756.0	718.5
50°	847.6	831.2	760.7	683.2	643.3
52.5°	779.5	753.7	685.6	608.1	575.2
55°	699.7	678.5	615.1	542.4	514.2
57.5°	626.9	605.8	547.1	479.0	455.5
60°	558.8	528.3	479.0	420.3	401.5
62.5°	483.7	460.2	417.9	368.6	392.1
65°	415.6	392.1	354.5	361.6	300.5
67.5°	340.4	328.7	295.8	263.0	253.6
70°	277.1	263.0	251.2	216.0	206.6
72.5°	220.7	206.6	190.2	171.4	164.4
75°	166.7	155.0	145.6	138.5	152.6
77.5°	115.0	110.4	103.3	96.3	93.9
80°	75.1	72.8	70.4	68.1	65.7
82.5°	44.6	44.6	44.6	44.6	44.6
85°	23.5	25.8	28.2	30.5	32.9
87.5°	14.1	14.1	16.4	18.8	21.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)