

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: P561586

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561586
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-LD4-2LO-40-UNV-80-85-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4126.0 lumens
Efficiency: N/A
Efficacy: 88.2 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

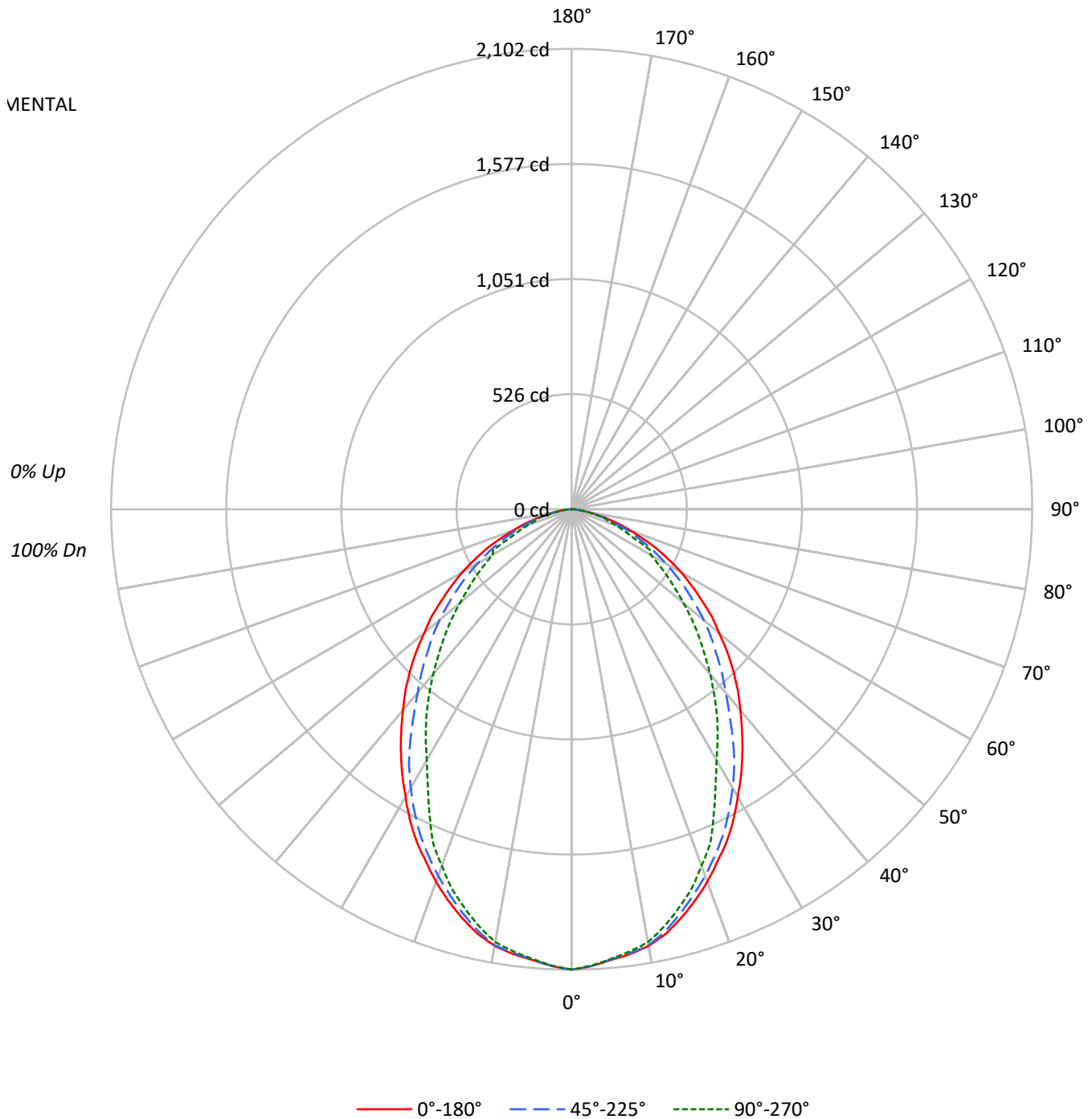
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	5656	5656	5656
5°	5579	5572	5566
10°	5531	5524	5484
15°	5381	5327	5253
20°	5184	5100	4961
25°	4971	4862	4559
30°	4711	4560	4107
35°	4462	4214	3800
40°	4208	3841	3457
45°	3967	3551	3126
50°	3672	3296	2787
55°	3397	2987	2496
60°	3112	2668	2236
65°	2739	2336	1980
70°	2256	2046	1682
75°	1794	1566	1642
80°	1206	1130	1054
85°	750	902	1050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3967 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.6	4.7
10°-20°	536.9	13.0
20°-30°	743.3	18.0
30°-40°	792.6	19.2
40°-50°	723.1	17.5
50°-60°	566.5	13.7
60°-70°	369.2	8.9
70°-80°	163.6	4.0
80°-90°	35.1	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°	1475.9	35.8
0°-40°	2268.5	55.0
0°-60°	3558.1	86.2
0°-90°	4126.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4126.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2102	2102	2102	2102	2102	
5°	2065	2063	2063	2060	2060	196
15°	1932	1932	1912	1893	1886	543
25°	1674	1664	1638	1579	1536	769
35°	1358	1348	1283	1186	1157	849
45°	1042	1020	933	855	821	803
55°	724	702	637	561	532	649
65°	430	406	367	374	311	424
75°	172	160	151	143	158	185
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2101.7	2101.7	2101.7	2101.7	2101.7
2.5°	2087.2	2087.2	2087.2	2084.7	2084.7
5°	2065.3	2062.9	2062.9	2060.4	2060.4
7.5°	2048.3	2045.8	2043.4	2041.0	2036.1
10°	2024.0	2024.0	2021.5	2009.4	2007.0
12.5°	1985.1	1982.7	1973.0	1955.9	1951.1
15°	1931.6	1931.6	1912.2	1892.8	1885.5
17.5°	1873.3	1870.9	1846.6	1827.2	1817.4
20°	1810.2	1805.3	1781.0	1749.4	1732.4
22.5°	1739.7	1739.7	1710.5	1669.2	1652.2
25°	1674.1	1664.4	1637.6	1579.3	1535.6
27.5°	1598.8	1584.2	1555.0	1472.4	1421.4
30°	1516.2	1508.9	1467.6	1360.7	1321.8
32.5°	1438.4	1426.3	1382.5	1270.8	1239.2
35°	1358.2	1348.5	1282.9	1185.7	1156.6
37.5°	1278.0	1265.9	1183.3	1105.5	1069.1
40°	1197.9	1183.3	1093.4	1022.9	984.0
42.5°	1122.5	1103.1	1015.6	940.3	896.6
45°	1042.4	1020.5	933.0	855.3	821.3
47.5°	962.2	942.7	862.6	782.4	743.5
50°	877.1	860.1	787.2	707.1	665.8
52.5°	806.7	779.9	709.5	629.3	595.3
55°	724.1	702.2	636.6	561.3	532.1
57.5°	648.7	626.9	566.1	495.7	471.4
60°	578.3	546.7	495.7	434.9	415.5
62.5°	500.5	476.2	432.5	381.5	405.8
65°	430.1	405.8	366.9	374.2	311.0
67.5°	352.3	340.2	306.1	272.1	262.4
70°	286.7	272.1	260.0	223.5	213.8
72.5°	228.4	213.8	196.8	177.4	170.1
75°	172.5	160.4	150.6	143.4	157.9
77.5°	119.1	114.2	106.9	99.6	97.2
80°	77.8	75.3	72.9	70.5	68.0
82.5°	46.2	46.2	46.2	46.2	46.2
85°	24.3	26.7	29.2	31.6	34.0
87.5°	14.6	14.6	17.0	19.4	21.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)