

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: P561668

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561668
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-50-UNV-81-86-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4081.0 lumens
Efficiency: N/A
Efficacy: 87.2 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

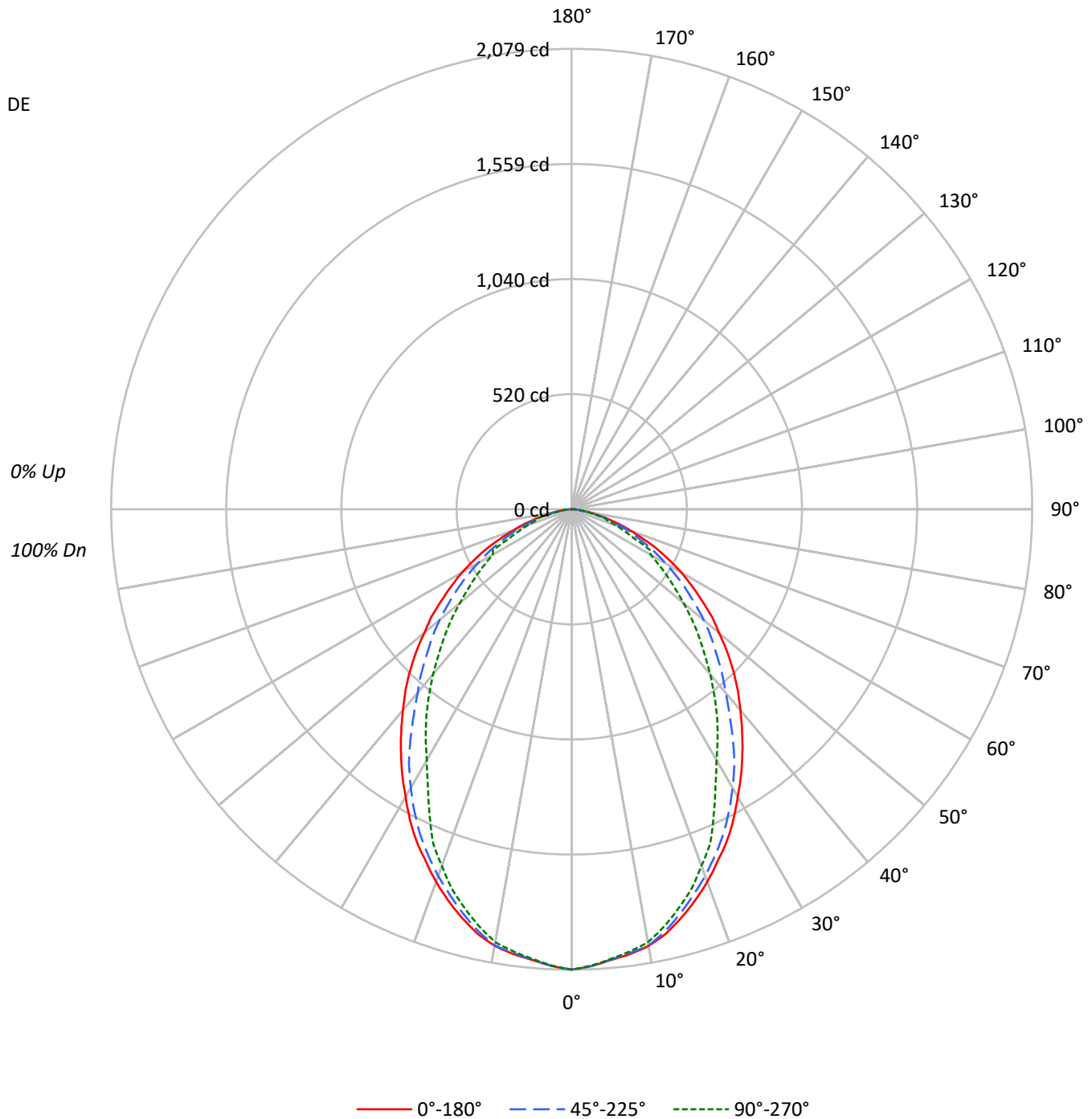
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5594	5594	5594
5°	5518	5512	5505
10°	5470	5464	5424
15°	5323	5269	5195
20°	5127	5045	4907
25°	4916	4809	4510
30°	4660	4511	4062
35°	4413	4168	3758
40°	4162	3799	3419
45°	3924	3512	3091
50°	3632	3260	2757
55°	3360	2954	2469
60°	3078	2639	2212
65°	2709	2311	1959
70°	2231	2023	1664
75°	1774	1549	1624
80°	1192	1117	1043
85°	741	889	1037

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3924 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.5	4.7
10°-20°	531.1	13.0
20°-30°	735.2	18.0
30°-40°	784.0	19.2
40°-50°	715.2	17.5
50°-60°	560.3	13.7
60°-70°	365.2	8.9
70°-80°	161.8	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°	1459.8	35.8
0°-40°	2243.8	55.0
0°-60°	3519.3	86.2
0°-90°	4081.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4081.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2079	2079	2079	2079	2079	
5°	2043	2040	2040	2038	2038	194
15°	1911	1911	1891	1872	1865	537
25°	1656	1646	1620	1562	1519	760
35°	1343	1334	1269	1173	1144	840
45°	1031	1009	923	846	812	794
55°	716	694	630	555	526	642
65°	425	401	363	370	308	419
75°	171	159	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°	2078.8	2078.8	2078.8	2078.8	2078.8
2.5°	2064.4	2064.4	2064.4	2062.0	2062.0
5°	2042.8	2040.4	2040.4	2038.0	2038.0
7.5°	2025.9	2023.5	2021.1	2018.7	2013.9
10°	2001.9	2001.9	1999.5	1987.5	1985.1
12.5°	1963.5	1961.0	1951.4	1934.6	1929.8
15°	1910.6	1910.6	1891.4	1872.1	1864.9
17.5°	1852.9	1850.5	1826.5	1807.2	1797.6
20°	1790.4	1785.6	1761.6	1730.3	1713.5
22.5°	1720.7	1720.7	1691.9	1651.0	1634.2
25°	1655.8	1646.2	1619.8	1562.1	1518.9
27.5°	1581.3	1566.9	1538.1	1456.4	1405.9
30°	1499.6	1492.4	1451.6	1345.8	1307.4
32.5°	1422.7	1410.7	1367.4	1256.9	1225.7
35°	1343.4	1333.8	1268.9	1172.8	1143.9
37.5°	1264.1	1252.1	1170.4	1093.5	1057.4
40°	1184.8	1170.4	1081.5	1011.8	973.3
42.5°	1110.3	1091.1	1004.6	930.1	886.8
45°	1031.0	1009.4	922.8	845.9	812.3
47.5°	951.7	932.5	853.2	773.8	735.4
50°	867.6	850.7	778.7	699.3	658.5
52.5°	797.9	771.4	701.7	622.4	588.8
55°	716.2	694.5	629.7	555.1	526.3
57.5°	641.7	620.0	560.0	490.3	466.2
60°	572.0	540.7	490.3	430.2	411.0
62.5°	495.1	471.0	427.8	377.3	401.3
65°	425.4	401.3	362.9	370.1	307.6
67.5°	348.5	336.5	302.8	269.2	259.6
70°	283.6	269.2	257.1	221.1	211.5
72.5°	225.9	211.5	194.7	175.4	168.2
75°	170.6	158.6	149.0	141.8	156.2
77.5°	117.8	113.0	105.7	98.5	96.1
80°	76.9	74.5	72.1	69.7	67.3
82.5°	45.7	45.7	45.7	45.7	45.7
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)