

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: P590656

Luminaire Tested: FSR-24-2-LD4-3STD-40-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-3STD-40-UNV-81-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5266.0 lumens
Efficiency: N/A
Efficacy: 105.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

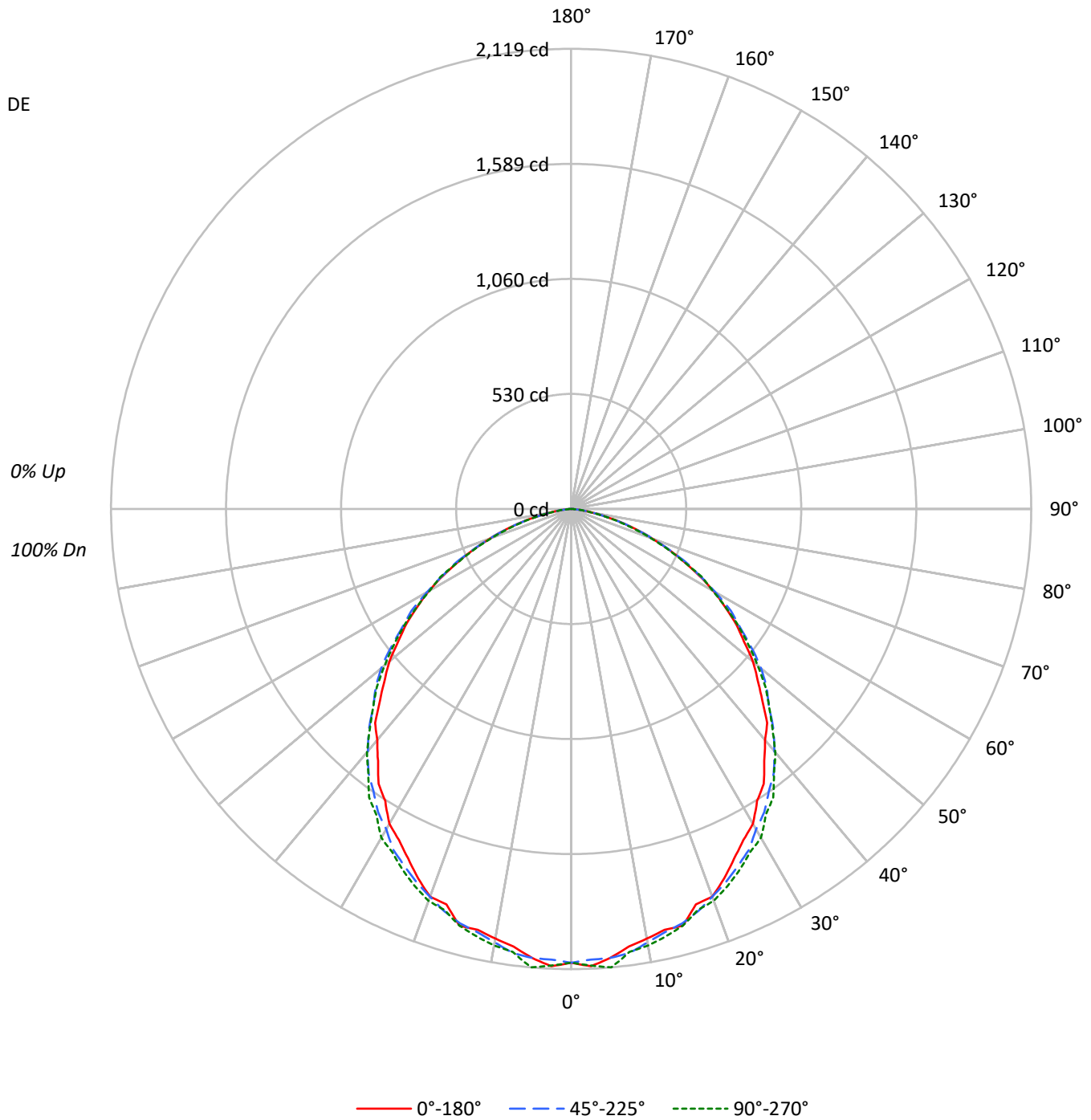
Input Watts (W): 50
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88					86				
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75					73				
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64					62				
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55					53				
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48					46				
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43					41				
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38					36				
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34					32				
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31					29				
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28					26				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5623	5623	5623
5°	5604	5606	5724
10°	5490	5538	5577
15°	5534	5504	5534
20°	5440	5440	5498
25°	5273	5388	5448
30°	5201	5292	5433
35°	5078	5211	5328
40°	4880	5116	5138
45°	4733	4901	4908
50°	4577	4784	4693
55°	4361	4446	4415
60°	4078	4119	4045
65°	3636	3729	3611
70°	3120	3131	3044
75°	2471	2465	2371
80°	1655	1610	1547
85°	898	892	834

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°

Vertical Angle: 45°

Luminance: 5028 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.5	3.7
10°-20°	557.0	10.6
20°-30°	834.5	15.8
30°-40°	989.1	18.8
40°-50°	990.9	18.8
50°-60°	841.1	16.0
60°-70°	567.1	10.8
70°-80°	249.2	4.7
80°-90°	40.5	0.8
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°	1588.1	30.2
0°-40°	2577.2	48.9
0°-60°	4409.2	83.7
0°-90°	5266.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5266.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2089	2089	2089	2089	2089	
5°	2075	2070	2075	2069	2119	196
15°	1986	1963	1976	1986	1987	553
25°	1776	1786	1815	1838	1835	821
35°	1546	1550	1586	1623	1622	960
45°	1244	1267	1288	1321	1290	962
55°	930	923	948	941	941	827
65°	571	564	586	563	567	568
75°	238	233	237	220	228	255
85°	29	28	29	28	27	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2089.4	2089.4	2089.4	2089.4	2089.4
2.5°	2107.5	2091.6	2076.7	2094.0	2104.5
5°	2074.6	2069.7	2075.4	2069.2	2119.1
7.5°	2032.0	2050.6	2061.4	2054.6	2057.6
10°	2009.3	2002.8	2026.8	2043.6	2041.1
12.5°	1985.0	1994.7	1996.1	2014.1	2015.8
15°	1986.4	1963.4	1975.6	1985.8	1986.6
17.5°	1909.2	1934.0	1942.4	1965.9	1936.7
20°	1899.8	1881.7	1899.8	1923.8	1920.0
22.5°	1841.8	1821.5	1860.4	1881.7	1880.3
25°	1775.9	1785.6	1814.8	1838.5	1834.7
27.5°	1718.2	1729.5	1771.1	1803.7	1782.7
30°	1673.7	1668.0	1703.1	1732.2	1748.4
32.5°	1594.1	1614.6	1655.6	1684.5	1669.1
35°	1545.8	1550.4	1586.3	1623.0	1621.9
37.5°	1461.4	1482.7	1533.1	1543.4	1533.9
40°	1389.3	1410.7	1456.3	1467.3	1462.7
42.5°	1336.2	1340.0	1379.1	1391.8	1371.5
45°	1243.7	1266.9	1287.9	1321.1	1289.8
47.5°	1164.9	1175.7	1221.0	1229.9	1213.5
50°	1093.4	1097.2	1142.8	1131.7	1120.9
52.5°	1003.6	1019.5	1045.1	1043.0	1030.3
55°	929.6	923.4	947.7	941.2	941.0
57.5°	840.9	851.7	871.6	861.4	844.9
60°	757.8	758.1	765.4	753.8	751.6
62.5°	665.3	668.5	670.1	655.8	679.0
65°	571.1	563.6	585.7	563.3	567.1
67.5°	484.5	488.3	486.1	472.1	477.5
70°	396.6	401.4	397.9	382.0	386.9
72.5°	316.2	310.2	314.0	294.1	303.2
75°	237.7	232.8	237.1	220.4	228.0
77.5°	161.9	165.6	162.9	154.0	159.2
80°	106.8	103.9	103.9	98.7	99.8
82.5°	62.3	59.4	58.5	56.9	59.4
85°	29.1	28.3	28.9	28.1	27.0
87.5°	10.5	10.8	10.8	10.3	9.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)