

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: P590208

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-81-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590208
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-LD4-2HI-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4379.0 lumens
Efficiency: N/A
Efficacy: 101.4 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

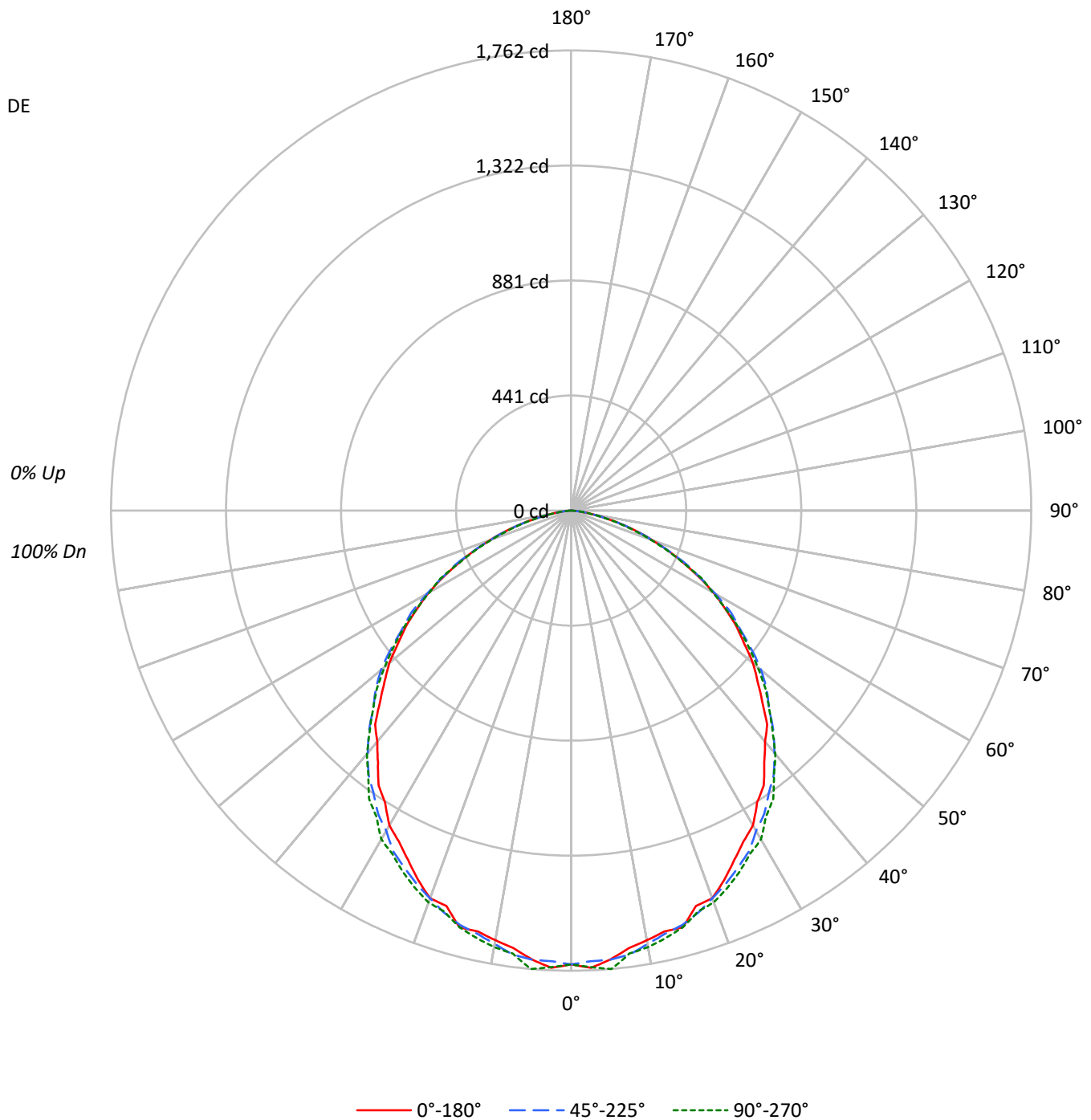
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4676	4676	4676
5°	4660	4662	4760
10°	4565	4605	4638
15°	4602	4577	4602
20°	4524	4524	4572
25°	4385	4481	4530
30°	4325	4401	4518
35°	4223	4333	4431
40°	4058	4254	4273
45°	3936	4076	4082
50°	3806	3978	3902
55°	3627	3697	3671
60°	3392	3425	3364
65°	3024	3101	3003
70°	2595	2603	2531
75°	2054	2050	1971
80°	1376	1339	1286
85°	747	741	692

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4181 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.4	3.7
10°-20°	463.2	10.6
20°-30°	694.0	15.8
30°-40°	822.5	18.8
40°-50°	824.0	18.8
50°-60°	699.5	16.0
60°-70°	471.6	10.8
70°-80°	207.2	4.7
80°-90°	33.7	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°	1320.6	30.2
0°-40°	2143.1	48.9
0°-60°	3666.5	83.7
0°-90°	4379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4379.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1738	1738	1738	1738	1738	
5°	1725	1721	1726	1721	1762	163
15°	1652	1633	1643	1651	1652	460
25°	1477	1485	1509	1529	1526	683
35°	1285	1289	1319	1350	1349	798
45°	1034	1054	1071	1099	1072	800
55°	773	768	788	783	782	688
65°	475	469	487	468	472	472
75°	198	194	197	183	190	212
85°	24	24	24	23	22	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1737.5	1737.5	1737.5	1737.5	1737.5
2.5°	1752.5	1739.3	1726.9	1741.3	1750.0
5°	1725.1	1721.1	1725.8	1720.7	1762.2
7.5°	1689.7	1705.2	1714.1	1708.5	1711.0
10°	1670.8	1665.5	1685.4	1699.3	1697.3
12.5°	1650.7	1658.7	1659.9	1674.9	1676.2
15°	1651.8	1632.7	1642.8	1651.3	1652.0
17.5°	1587.6	1608.3	1615.2	1634.7	1610.5
20°	1579.8	1564.7	1579.8	1599.7	1596.6
22.5°	1531.5	1514.7	1547.0	1564.7	1563.6
25°	1476.8	1484.9	1509.1	1528.8	1525.7
27.5°	1428.8	1438.2	1472.8	1499.9	1482.4
30°	1391.8	1387.1	1416.2	1440.5	1453.9
32.5°	1325.6	1342.6	1376.7	1400.7	1388.0
35°	1285.4	1289.3	1319.1	1349.6	1348.7
37.5°	1215.2	1232.9	1274.9	1283.4	1275.6
40°	1155.3	1173.0	1211.0	1220.2	1216.3
42.5°	1111.1	1114.3	1146.8	1157.3	1140.5
45°	1034.2	1053.5	1071.0	1098.6	1072.5
47.5°	968.7	977.7	1015.3	1022.7	1009.1
50°	909.2	912.4	950.3	941.1	932.1
52.5°	834.5	847.8	869.1	867.3	856.7
55°	773.1	767.9	788.1	782.7	782.5
57.5°	699.3	708.2	724.8	716.3	702.6
60°	630.2	630.4	636.4	626.8	625.0
62.5°	553.2	555.9	557.2	545.4	564.7
65°	474.9	468.6	487.0	468.4	471.6
67.5°	402.9	406.0	404.3	392.6	397.1
70°	329.8	333.8	330.9	317.7	321.7
72.5°	262.9	258.0	261.1	244.5	252.2
75°	197.6	193.6	197.2	183.3	189.6
77.5°	134.6	137.7	135.5	128.1	132.4
80°	88.8	86.4	86.4	82.1	83.0
82.5°	51.8	49.4	48.7	47.3	49.4
85°	24.2	23.6	24.0	23.3	22.4
87.5°	8.7	9.0	9.0	8.5	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)