

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: P590172

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-80-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590172  
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-40-UNV-80-97-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

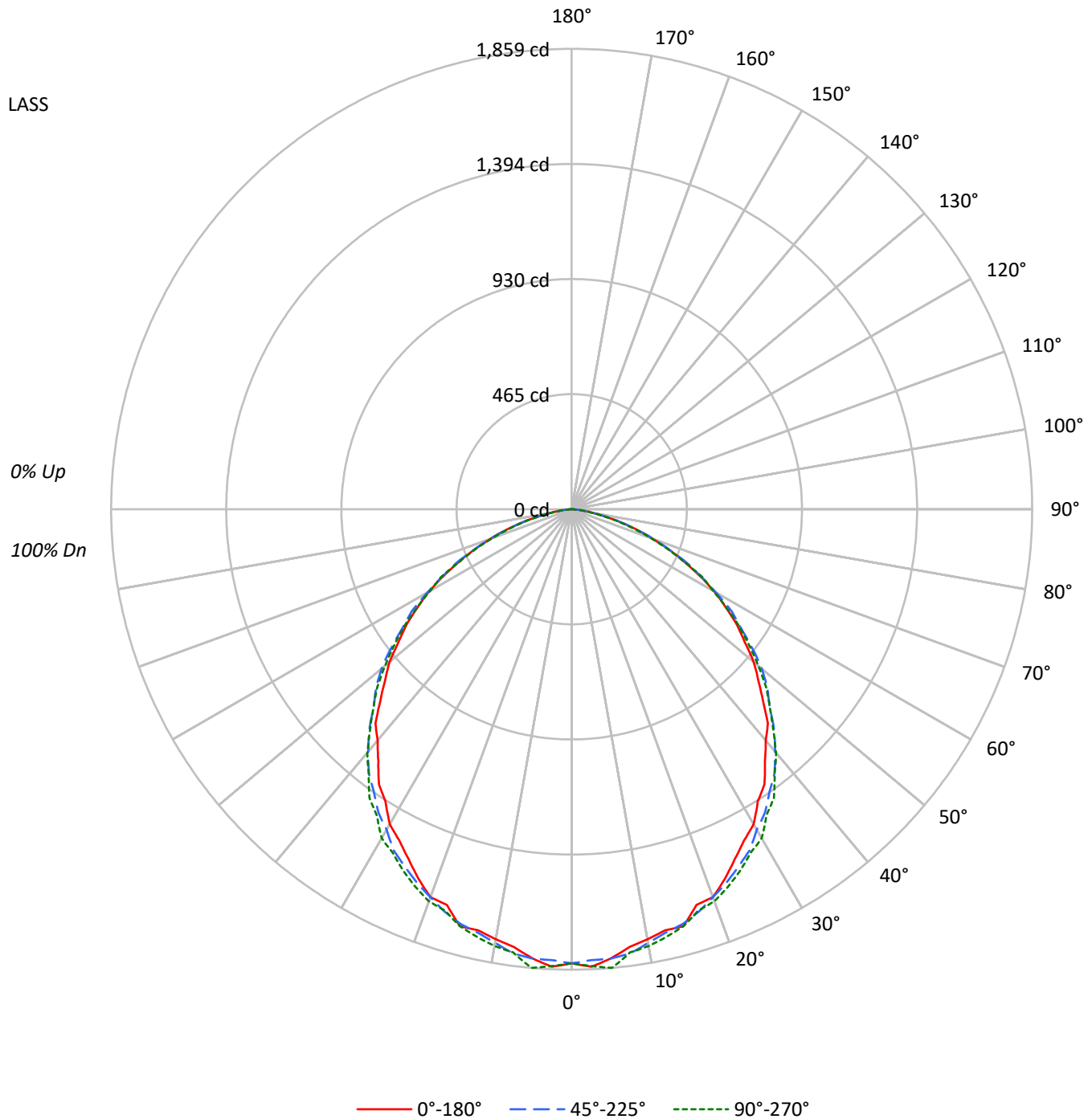
Lumens per Lamp: N/A  
Luminaire Lumens: 4620.0 lumens  
Efficiency: N/A  
Efficacy: 106.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
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°	4933	4933	4933
5°	4917	4918	5022
10°	4817	4859	4893
15°	4855	4829	4856
20°	4773	4773	4824
25°	4626	4728	4779
30°	4563	4643	4766
35°	4455	4572	4674
40°	4282	4488	4508
45°	4152	4300	4306
50°	4016	4197	4117
55°	3826	3901	3873
60°	3578	3614	3549
65°	3191	3272	3168
70°	2737	2747	2670
75°	2168	2163	2079
80°	1452	1412	1358
85°	790	781	732

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4411 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.4	3.7
10°-20°	488.7	10.6
20°-30°	732.2	15.8
30°-40°	867.8	18.8
40°-50°	869.4	18.8
50°-60°	737.9	16.0
60°-70°	497.5	10.8
70°-80°	218.6	4.7
80°-90°	35.5	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°	1393.3	30.2
0°-40°	2261.0	48.9
0°-60°	3868.4	83.7
0°-90°	4620.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4620.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1820	1816	1821	1815	1859	172
15°	1743	1723	1733	1742	1743	486
25°	1558	1567	1592	1613	1610	720
35°	1356	1360	1392	1424	1423	842
45°	1091	1112	1130	1159	1132	844
55°	816	810	832	826	826	726
65°	501	494	514	494	498	498
75°	208	204	208	193	200	223
85°	26	25	25	25	24	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1833.1	1833.1	1833.1	1833.1	1833.1
2.5°	1849.0	1835.0	1822.0	1837.1	1846.4
5°	1820.1	1815.8	1820.8	1815.3	1859.1
7.5°	1782.7	1799.0	1808.5	1802.6	1805.2
10°	1762.8	1757.1	1778.2	1792.9	1790.7
12.5°	1741.5	1750.0	1751.2	1767.1	1768.5
15°	1742.7	1722.6	1733.2	1742.2	1742.9
17.5°	1675.0	1696.8	1704.1	1724.7	1699.1
20°	1666.7	1650.9	1666.7	1687.8	1684.5
22.5°	1615.8	1598.1	1632.2	1650.9	1649.7
25°	1558.1	1566.6	1592.2	1613.0	1609.7
27.5°	1507.4	1517.4	1553.8	1582.5	1564.0
30°	1468.4	1463.4	1494.2	1519.7	1533.9
32.5°	1398.6	1416.5	1452.5	1477.8	1464.3
35°	1356.2	1360.2	1391.7	1423.9	1422.9
37.5°	1282.1	1300.8	1345.1	1354.1	1345.8
40°	1218.9	1237.6	1277.6	1287.3	1283.3
42.5°	1172.3	1175.6	1209.9	1221.0	1203.3
45°	1091.1	1111.5	1129.9	1159.0	1131.6
47.5°	1022.0	1031.5	1071.2	1079.0	1064.6
50°	959.3	962.6	1002.6	992.9	983.4
52.5°	880.5	894.4	916.9	915.0	903.9
55°	815.6	810.2	831.5	825.8	825.5
57.5°	737.7	747.2	764.7	755.7	741.3
60°	664.8	665.1	671.5	661.3	659.4
62.5°	583.7	586.5	587.9	575.4	595.7
65°	501.1	494.4	513.8	494.2	497.5
67.5°	425.1	428.4	426.5	414.2	418.9
70°	347.9	352.2	349.1	335.1	339.4
72.5°	277.4	272.2	275.5	258.0	266.0
75°	208.5	204.3	208.0	193.4	200.0
77.5°	142.0	145.3	143.0	135.1	139.6
80°	93.7	91.1	91.1	86.6	87.6
82.5°	54.7	52.1	51.4	49.9	52.1
85°	25.6	24.9	25.3	24.6	23.7
87.5°	9.2	9.5	9.5	9.0	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)