

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: P590549

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-80-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590549  
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-LD4-3LO-40-UNV-80-84-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

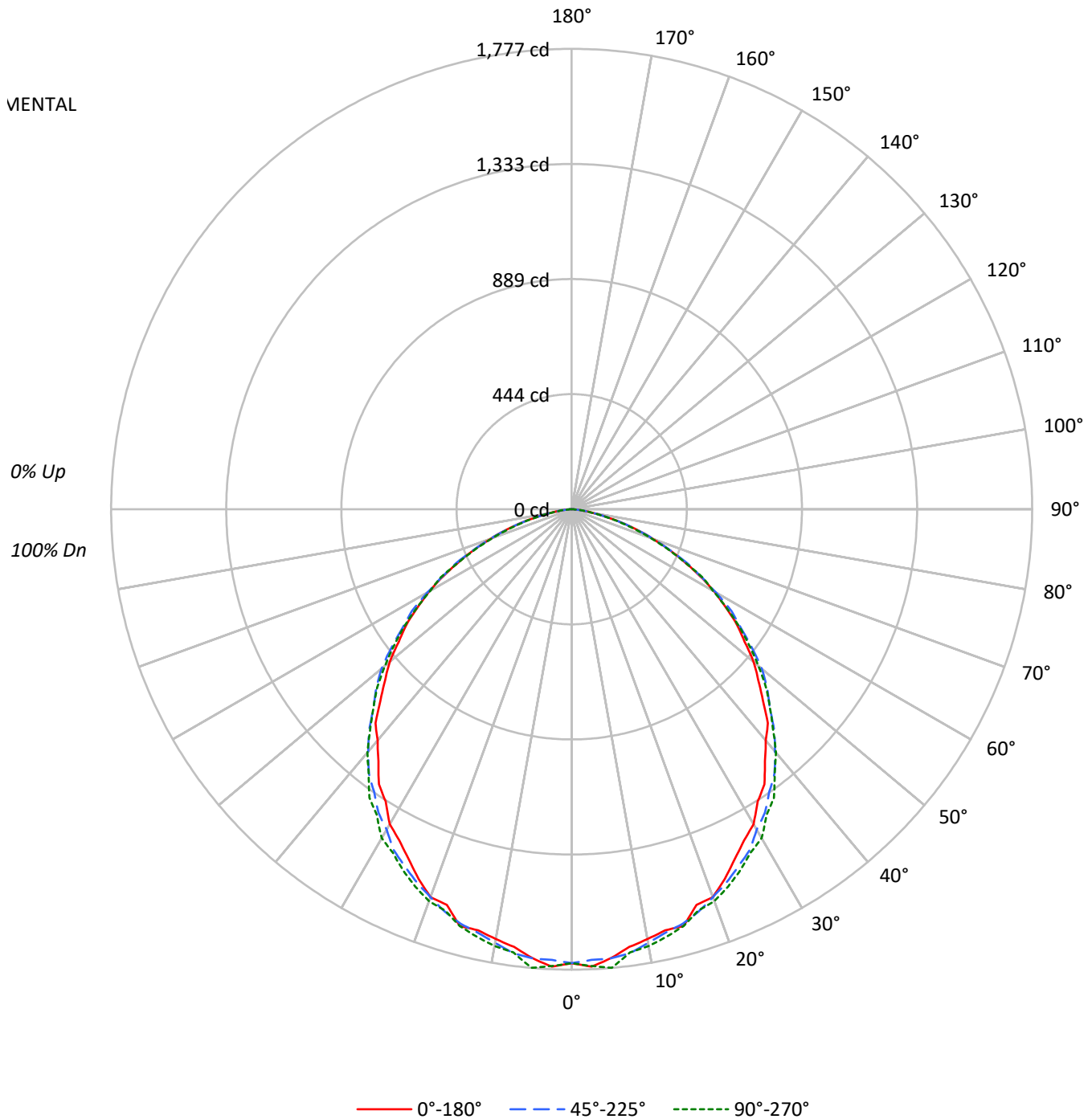
Lumens per Lamp: N/A  
Luminaire Lumens: 4415.0 lumens  
Efficiency: N/A  
Efficacy: 125.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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																												
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°	4714	4714	4714
5°	4698	4700	4799
10°	4603	4643	4676
15°	4640	4614	4640
20°	4561	4561	4610
25°	4421	4518	4567
30°	4360	4437	4555
35°	4257	4369	4467
40°	4092	4289	4308
45°	3968	4109	4115
50°	3838	4011	3934
55°	3657	3728	3701
60°	3419	3454	3391
65°	3049	3126	3027
70°	2616	2625	2552
75°	2072	2067	1987
80°	1389	1350	1297
85°	753	747	698

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4215 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.8	3.7
10°-20°	467.0	10.6
20°-30°	699.7	15.8
30°-40°	829.3	18.8
40°-50°	830.8	18.8
50°-60°	705.2	16.0
60°-70°	475.4	10.8
70°-80°	208.9	4.7
80°-90°	33.9	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°	1331.5	30.2
0°-40°	2160.7	48.9
0°-60°	3696.7	83.7
0°-90°	4415.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4415.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1752	1752	1752	1752	1752	
5°	1739	1735	1740	1735	1777	164
15°	1665	1646	1656	1665	1666	464
25°	1489	1497	1522	1541	1538	688
35°	1296	1300	1330	1361	1360	805
45°	1043	1062	1080	1108	1081	807
55°	779	774	795	789	789	693
65°	479	472	491	472	475	476
75°	199	195	199	185	191	214
85°	24	24	24	24	23	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1751.8	1751.8	1751.8	1751.8	1751.8
2.5°	1766.9	1753.6	1741.1	1755.6	1764.4
5°	1739.3	1735.2	1740.0	1734.8	1776.6
7.5°	1703.6	1719.2	1728.2	1722.6	1725.1
10°	1684.6	1679.2	1699.3	1713.3	1711.3
12.5°	1664.2	1672.4	1673.5	1688.7	1690.0
15°	1665.4	1646.1	1656.3	1664.9	1665.6
17.5°	1600.7	1621.5	1628.5	1648.2	1623.7
20°	1592.8	1577.6	1592.8	1612.9	1609.7
22.5°	1544.1	1527.2	1559.7	1577.6	1576.5
25°	1488.9	1497.1	1521.5	1541.4	1538.2
27.5°	1440.5	1450.0	1484.9	1512.2	1494.6
30°	1403.2	1398.5	1427.9	1452.3	1465.9
32.5°	1336.5	1353.7	1388.1	1412.3	1399.4
35°	1296.0	1299.9	1329.9	1360.7	1359.8
37.5°	1225.2	1243.1	1285.4	1294.0	1286.1
40°	1164.8	1182.7	1220.9	1230.2	1226.3
42.5°	1120.3	1123.4	1156.2	1166.9	1149.9
45°	1042.7	1062.1	1079.8	1107.6	1081.4
47.5°	976.6	985.7	1023.7	1031.2	1017.4
50°	916.7	919.9	958.1	948.8	939.8
52.5°	841.4	854.7	876.2	874.4	863.8
55°	779.4	774.2	794.6	789.1	788.9
57.5°	705.0	714.0	730.8	722.2	708.4
60°	635.3	635.6	641.7	631.9	630.1
62.5°	557.8	560.5	561.8	549.8	569.3
65°	478.8	472.5	491.0	472.3	475.4
67.5°	406.2	409.4	407.6	395.8	400.3
70°	332.5	336.6	333.6	320.3	324.3
72.5°	265.1	260.1	263.3	246.5	254.2
75°	199.3	195.2	198.8	184.8	191.1
77.5°	135.7	138.9	136.6	129.1	133.4
80°	89.6	87.1	87.1	82.8	83.7
82.5°	52.2	49.8	49.1	47.7	49.8
85°	24.4	23.7	24.2	23.5	22.6
87.5°	8.8	9.0	9.0	8.6	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)