

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: P590137

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-80-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590137  
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-35-UNV-80-88-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

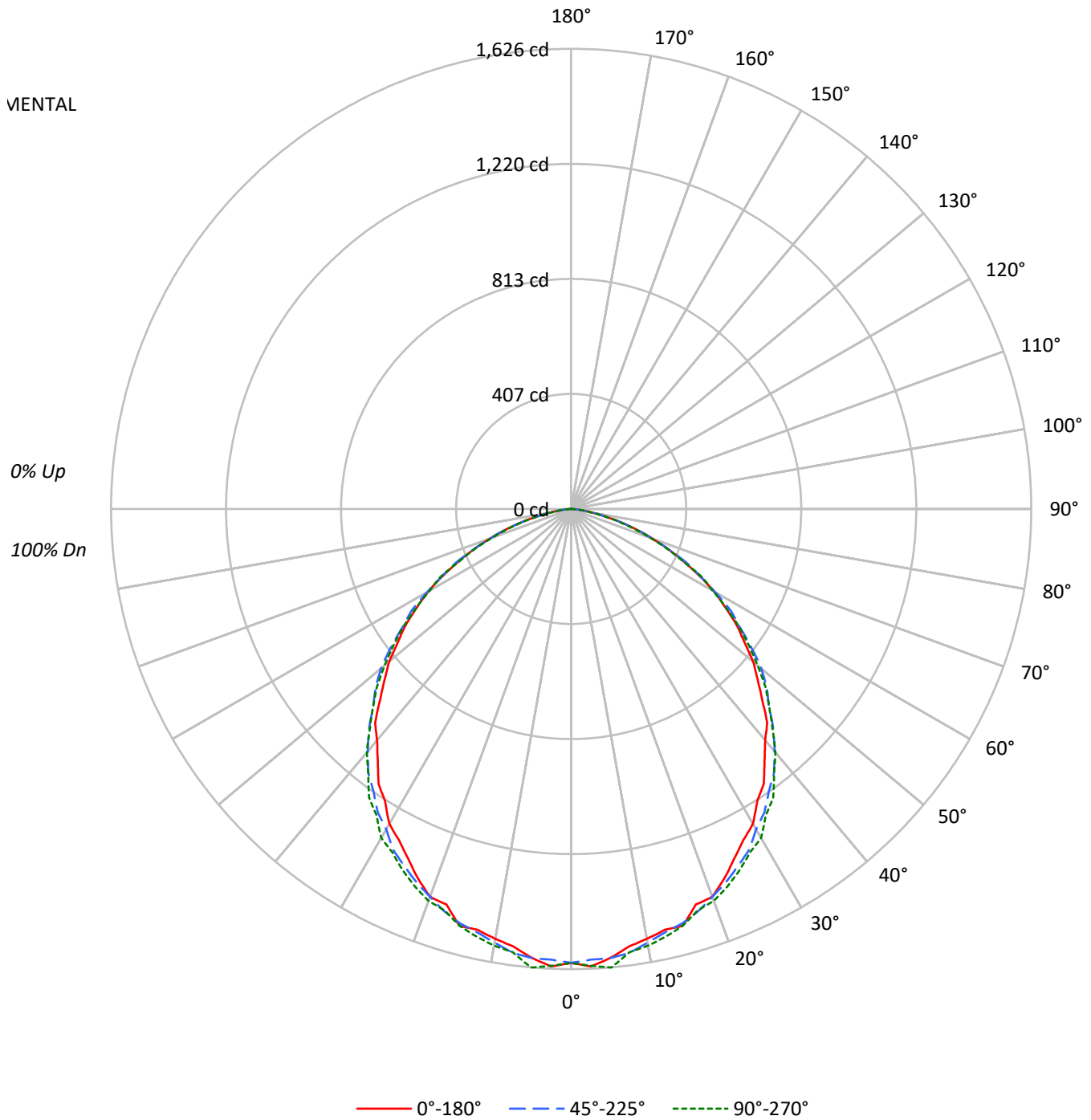
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4042.0 lumens  
Efficiency: N/A  
Efficacy: 93.6 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	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°	4316	4316	4316
5°	4301	4303	4394
10°	4214	4251	4281
15°	4248	4225	4248
20°	4176	4176	4220
25°	4047	4136	4181
30°	3992	4062	4170
35°	3898	4000	4090
40°	3746	3927	3944
45°	3633	3762	3768
50°	3514	3672	3602
55°	3348	3413	3389
60°	3131	3162	3105
65°	2791	2863	2772
70°	2395	2403	2336
75°	1896	1892	1820
80°	1271	1235	1187
85°	692	685	639

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3859 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.9	3.7
10°-20°	427.6	10.6
20°-30°	640.6	15.8
30°-40°	759.2	18.8
40°-50°	760.6	18.8
50°-60°	645.6	16.0
60°-70°	435.3	10.8
70°-80°	191.3	4.7
80°-90°	31.1	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°	1219.0	30.2
0°-40°	1978.2	48.9
0°-60°	3384.4	83.7
0°-90°	4042.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4042.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1604	1604	1604	1604	1604	
5°	1592	1589	1593	1588	1626	150
15°	1525	1507	1516	1524	1525	425
25°	1363	1371	1393	1411	1408	630
35°	1186	1190	1218	1246	1245	737
45°	955	972	989	1014	990	738
55°	714	709	727	722	722	635
65°	438	433	450	432	435	436
75°	182	179	182	169	175	195
85°	22	22	22	22	21	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1603.8	1603.8	1603.8	1603.8	1603.8
2.5°	1617.6	1605.4	1594.0	1607.3	1615.4
5°	1592.4	1588.6	1593.0	1588.2	1626.5
7.5°	1559.7	1573.9	1582.2	1577.1	1579.3
10°	1542.3	1537.3	1555.7	1568.6	1566.7
12.5°	1523.6	1531.1	1532.1	1546.0	1547.2
15°	1524.7	1507.1	1516.4	1524.2	1524.9
17.5°	1465.4	1484.5	1490.9	1508.9	1486.6
20°	1458.2	1444.3	1458.2	1476.6	1473.7
22.5°	1413.7	1398.1	1428.0	1444.3	1443.3
25°	1363.1	1370.6	1393.0	1411.2	1408.3
27.5°	1318.8	1327.5	1359.4	1384.5	1368.3
30°	1284.7	1280.3	1307.2	1329.6	1342.0
32.5°	1223.6	1239.3	1270.8	1293.0	1281.1
35°	1186.5	1190.0	1217.6	1245.7	1244.9
37.5°	1121.7	1138.1	1176.8	1184.7	1177.4
40°	1066.4	1082.8	1117.8	1126.3	1122.7
42.5°	1025.6	1028.5	1058.5	1068.3	1052.7
45°	954.6	972.4	988.6	1014.0	990.0
47.5°	894.1	902.4	937.2	944.0	931.4
50°	839.3	842.2	877.2	868.7	860.4
52.5°	770.3	782.5	802.2	800.5	790.8
55°	713.6	708.8	727.4	722.5	722.3
57.5°	645.4	653.7	669.0	661.2	648.5
60°	581.7	581.9	587.5	578.6	576.9
62.5°	510.6	513.1	514.4	503.4	521.2
65°	438.4	432.6	449.6	432.4	435.3
67.5°	371.9	374.8	373.1	362.4	366.5
70°	304.4	308.1	305.4	293.2	296.9
72.5°	242.7	238.1	241.0	225.7	232.7
75°	182.4	178.7	182.0	169.2	175.0
77.5°	124.2	127.1	125.1	118.2	122.2
80°	82.0	79.7	79.7	75.8	76.6
82.5°	47.8	45.6	44.9	43.7	45.6
85°	22.4	21.7	22.2	21.5	20.7
87.5°	8.1	8.3	8.3	7.9	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)