

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: P590394

Luminaire Tested: FSR-24-2-LD4-2STD-50-UNV-80-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590394  
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-LD4-2STD-50-UNV-80-94-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

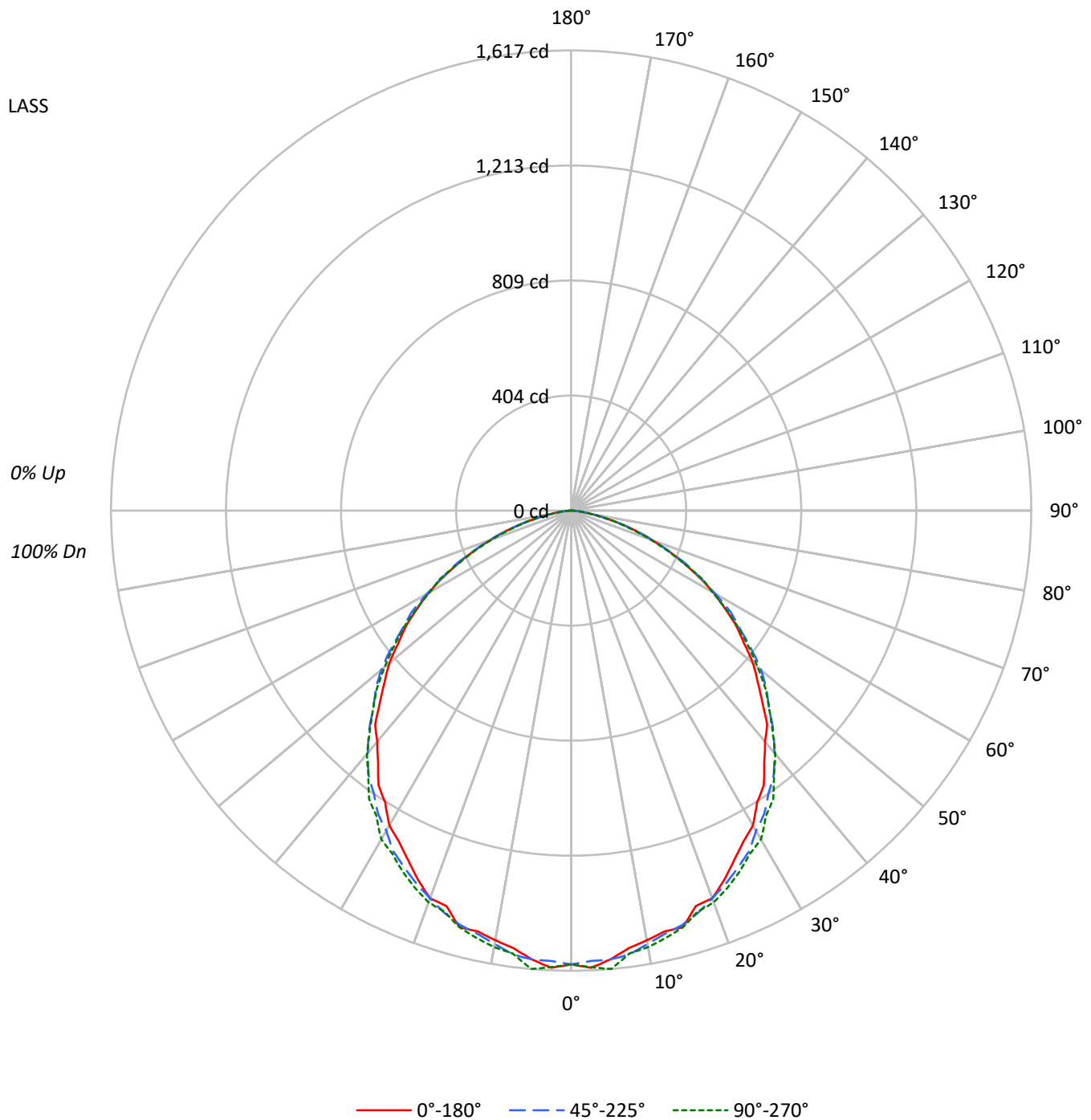
Lumens per Lamp: N/A  
Luminaire Lumens: 4018.0 lumens  
Efficiency: N/A  
Efficacy: 120.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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°	4290	4290	4290
5°	4276	4277	4368
10°	4189	4226	4256
15°	4222	4199	4223
20°	4151	4151	4195
25°	4024	4111	4157
30°	3968	4038	4145
35°	3875	3976	4065
40°	3724	3903	3921
45°	3611	3740	3745
50°	3493	3650	3581
55°	3328	3392	3369
60°	3112	3143	3087
65°	2775	2846	2755
70°	2381	2389	2323
75°	1885	1881	1808
80°	1263	1227	1181
85°	685	679	636

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3836 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.0	3.7
10°-20°	425.0	10.6
20°-30°	636.8	15.8
30°-40°	754.7	18.8
40°-50°	756.1	18.8
50°-60°	641.8	16.0
60°-70°	432.7	10.8
70°-80°	190.1	4.7
80°-90°	30.9	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°	1211.7	30.2
0°-40°	1966.4	48.9
0°-60°	3364.3	83.7
0°-90°	4018.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4018.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1583	1579	1584	1579	1617	149
15°	1516	1498	1507	1515	1516	422
25°	1355	1362	1385	1403	1400	626
35°	1180	1183	1210	1238	1238	732
45°	949	967	983	1008	984	734
55°	709	705	723	718	718	631
65°	436	430	447	430	433	433
75°	181	178	181	168	174	194
85°	22	22	22	21	21	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1594.2	1594.2	1594.2	1594.2	1594.2
2.5°	1608.0	1595.9	1584.6	1597.7	1605.8
5°	1582.9	1579.2	1583.5	1578.8	1616.9
7.5°	1550.4	1564.6	1572.8	1567.7	1570.0
10°	1533.1	1528.2	1546.5	1559.2	1557.4
12.5°	1514.6	1522.0	1523.0	1536.8	1538.0
15°	1515.6	1498.1	1507.4	1515.2	1515.8
17.5°	1456.7	1475.7	1482.1	1500.0	1477.7
20°	1449.5	1435.7	1449.5	1467.9	1465.0
22.5°	1405.3	1389.8	1419.5	1435.7	1434.7
25°	1355.1	1362.5	1384.7	1402.8	1399.9
27.5°	1311.0	1319.6	1351.3	1376.3	1360.2
30°	1277.0	1272.7	1299.5	1321.7	1334.1
32.5°	1216.3	1232.0	1263.2	1285.3	1273.5
35°	1179.5	1183.0	1210.3	1238.3	1237.5
37.5°	1115.0	1131.3	1169.8	1177.6	1170.4
40°	1060.1	1076.3	1111.1	1119.6	1116.1
42.5°	1019.5	1022.4	1052.3	1061.9	1046.5
45°	948.9	966.6	982.7	1008.0	984.1
47.5°	888.8	897.1	931.6	938.4	925.9
50°	834.3	837.2	871.9	863.5	855.3
52.5°	765.7	777.9	797.4	795.8	786.1
55°	709.3	704.6	723.1	718.2	718.0
57.5°	641.6	649.8	665.1	657.3	644.7
60°	578.2	578.4	584.0	575.1	573.5
62.5°	507.6	510.1	511.3	500.4	518.1
65°	435.8	430.0	446.9	429.8	432.7
67.5°	369.7	372.6	370.9	360.2	364.3
70°	302.6	306.3	303.6	291.5	295.2
72.5°	241.2	236.7	239.6	224.4	231.4
75°	181.3	177.6	180.9	168.2	173.9
77.5°	123.5	126.4	124.3	117.5	121.4
80°	81.5	79.2	79.2	75.3	76.2
82.5°	47.5	45.3	44.7	43.4	45.3
85°	22.2	21.6	22.0	21.4	20.6
87.5°	8.0	8.2	8.2	7.8	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)