

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: P562175

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-80-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562175  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-1LO-40-UNV-80-97-EDD  
Description: 2X4 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: -

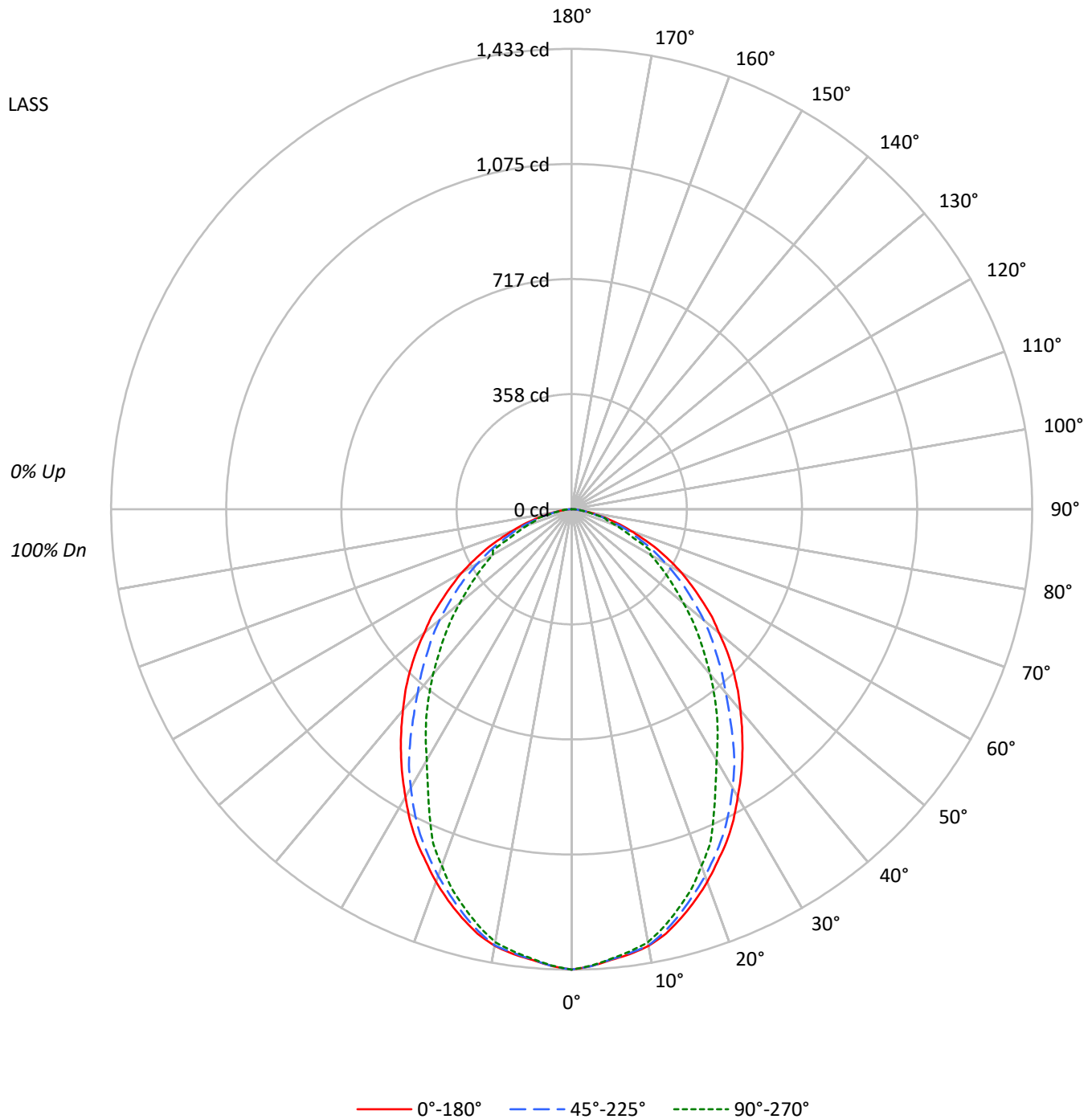
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2813.0 lumens  
Efficiency: N/A  
Efficacy: 120.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1928	1928	1928
5°	1902	1900	1897
10°	1885	1883	1869
15°	1834	1816	1791
20°	1767	1739	1691
25°	1695	1658	1554
30°	1606	1554	1400
35°	1521	1437	1295
40°	1434	1309	1178
45°	1352	1210	1065
50°	1252	1123	950
55°	1158	1018	851
60°	1061	909	762
65°	933	796	675
70°	769	697	574
75°	611	534	560
80°	411	385	360
85°	256	307	358

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1352 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.4	4.7
10°-20°	366.1	13.0
20°-30°	506.8	18.0
30°-40°	540.4	19.2
40°-50°	493.0	17.5
50°-60°	386.2	13.7
60°-70°	251.7	8.9
70°-80°	111.5	4.0
80°-90°	23.9	0.9
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°	1006.2	35.8
0°-40°	1546.6	55.0
0°-60°	2425.8	86.2
0°-90°	2813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2813.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1433	1433	1433	1433	1433	
5°	1408	1406	1406	1405	1405	134
15°	1317	1317	1304	1290	1286	370
25°	1141	1135	1116	1077	1047	524
35°	926	919	875	808	788	579
45°	711	696	636	583	560	547
55°	494	479	434	383	363	443
65°	293	277	250	255	212	289
75°	118	109	103	98	108	126
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1432.9	1432.9	1432.9	1432.9	1432.9
2.5°	1423.0	1423.0	1423.0	1421.3	1421.3
5°	1408.1	1406.4	1406.4	1404.7	1404.7
7.5°	1396.5	1394.8	1393.1	1391.5	1388.2
10°	1379.9	1379.9	1378.2	1370.0	1368.3
12.5°	1353.4	1351.7	1345.1	1333.5	1330.2
15°	1316.9	1316.9	1303.7	1290.4	1285.5
17.5°	1277.2	1275.5	1259.0	1245.7	1239.1
20°	1234.1	1230.8	1214.2	1192.7	1181.1
22.5°	1186.1	1186.1	1166.2	1138.0	1126.4
25°	1141.4	1134.7	1116.5	1076.7	1046.9
27.5°	1090.0	1080.1	1060.2	1003.9	969.1
30°	1033.7	1028.7	1000.5	927.7	901.2
32.5°	980.7	972.4	942.6	866.4	844.8
35°	926.0	919.4	874.7	808.4	788.5
37.5°	871.3	863.1	806.7	753.7	728.9
40°	816.7	806.7	745.4	697.4	670.9
42.5°	765.3	752.1	692.4	641.1	611.3
45°	710.7	695.7	636.1	583.1	559.9
47.5°	656.0	642.7	588.1	533.4	506.9
50°	598.0	586.4	536.7	482.1	453.9
52.5°	550.0	531.7	483.7	429.0	405.9
55°	493.6	478.7	434.0	382.7	362.8
57.5°	442.3	427.4	386.0	337.9	321.4
60°	394.3	372.7	337.9	296.5	283.3
62.5°	341.2	324.7	294.9	260.1	276.6
65°	293.2	276.6	250.1	255.1	212.0
67.5°	240.2	231.9	208.7	185.5	178.9
70°	195.5	185.5	177.2	152.4	145.8
72.5°	155.7	145.8	134.2	120.9	116.0
75°	117.6	109.3	102.7	97.7	107.7
77.5°	81.2	77.9	72.9	67.9	66.3
80°	53.0	51.4	49.7	48.0	46.4
82.5°	31.5	31.5	31.5	31.5	31.5
85°	16.6	18.2	19.9	21.5	23.2
87.5°	9.9	9.9	11.6	13.3	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)