

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: P562395

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562395  
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-LD4-1STD-40-UNV-82-94-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

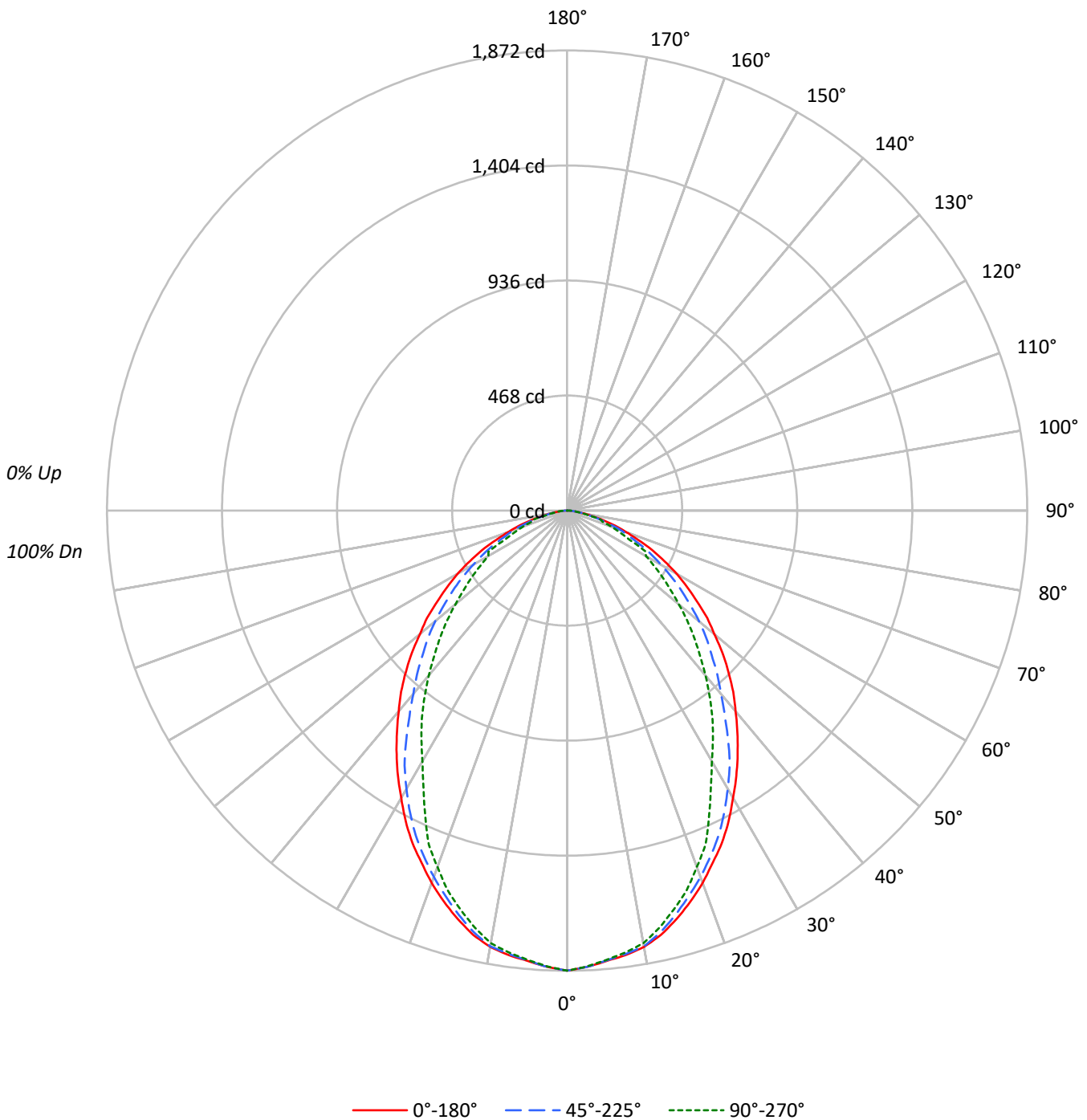
Lumens per Lamp: N/A  
Luminaire Lumens: 3674.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2518	2518	2518
5°	2484	2481	2478
10°	2462	2459	2442
15°	2396	2372	2339
20°	2308	2271	2209
25°	2213	2165	2030
30°	2098	2030	1829
35°	1986	1876	1692
40°	1873	1710	1539
45°	1766	1581	1392
50°	1635	1467	1241
55°	1512	1330	1111
60°	1386	1188	996
65°	1219	1040	882
70°	1004	911	749
75°	799	697	731
80°	536	503	470
85°	333	401	468

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1766 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.2	4.7
10°-20°	478.1	13.0
20°-30°	661.9	18.0
30°-40°	705.8	19.2
40°-50°	643.9	17.5
50°-60°	504.4	13.7
60°-70°	328.8	8.9
70°-80°	145.6	4.0
80°-90°	31.3	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°	1314.2	35.8
0°-40°	2020.0	55.0
0°-60°	3168.3	86.2
0°-90°	3674.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3674.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1872	1872	1872	1872	1872	
5°	1839	1837	1837	1835	1835	175
15°	1720	1720	1703	1685	1679	484
25°	1491	1482	1458	1406	1367	684
35°	1209	1201	1142	1056	1030	756
45°	928	909	831	762	731	715
55°	645	625	567	500	474	578
65°	383	361	327	333	277	377
75°	154	143	134	128	141	165
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1871.5	1871.5	1871.5	1871.5	1871.5
2.5°	1858.5	1858.5	1858.5	1856.3	1856.3
5°	1839.0	1836.9	1836.9	1834.7	1834.7
7.5°	1823.9	1821.7	1819.6	1817.4	1813.1
10°	1802.3	1802.3	1800.1	1789.3	1787.1
12.5°	1767.6	1765.5	1756.8	1741.7	1737.3
15°	1720.0	1720.0	1702.7	1685.4	1678.9
17.5°	1668.1	1665.9	1644.3	1627.0	1618.3
20°	1611.9	1607.5	1585.9	1557.8	1542.6
22.5°	1549.1	1549.1	1523.2	1486.4	1471.2
25°	1490.7	1482.0	1458.2	1406.3	1367.4
27.5°	1423.6	1410.6	1384.7	1311.1	1265.7
30°	1350.1	1343.6	1306.8	1211.6	1177.0
32.5°	1280.8	1270.0	1231.1	1131.5	1103.4
35°	1209.4	1200.8	1142.4	1055.8	1029.9
37.5°	1138.0	1127.2	1053.7	984.4	952.0
40°	1066.6	1053.7	973.6	910.9	876.2
42.5°	999.6	982.3	904.4	837.3	798.4
45°	928.2	908.7	830.8	761.6	731.3
47.5°	856.8	839.5	768.1	696.7	662.1
50°	781.0	765.9	701.0	629.6	592.8
52.5°	718.3	694.5	631.8	560.4	530.1
55°	644.7	625.3	566.9	499.8	473.8
57.5°	577.7	558.2	504.1	441.4	419.7
60°	514.9	486.8	441.4	387.3	370.0
62.5°	445.7	424.1	385.1	339.7	361.3
65°	383.0	361.3	326.7	333.2	276.9
67.5°	313.7	302.9	272.6	242.3	233.7
70°	255.3	242.3	231.5	199.0	190.4
72.5°	203.4	190.4	175.2	157.9	151.4
75°	153.6	142.8	134.1	127.7	140.6
77.5°	106.0	101.7	95.2	88.7	86.5
80°	69.2	67.1	64.9	62.7	60.6
82.5°	41.1	41.1	41.1	41.1	41.1
85°	21.6	23.8	26.0	28.1	30.3
87.5°	13.0	13.0	15.1	17.3	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)