

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: P562349

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562349  
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-35-UNV-93-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

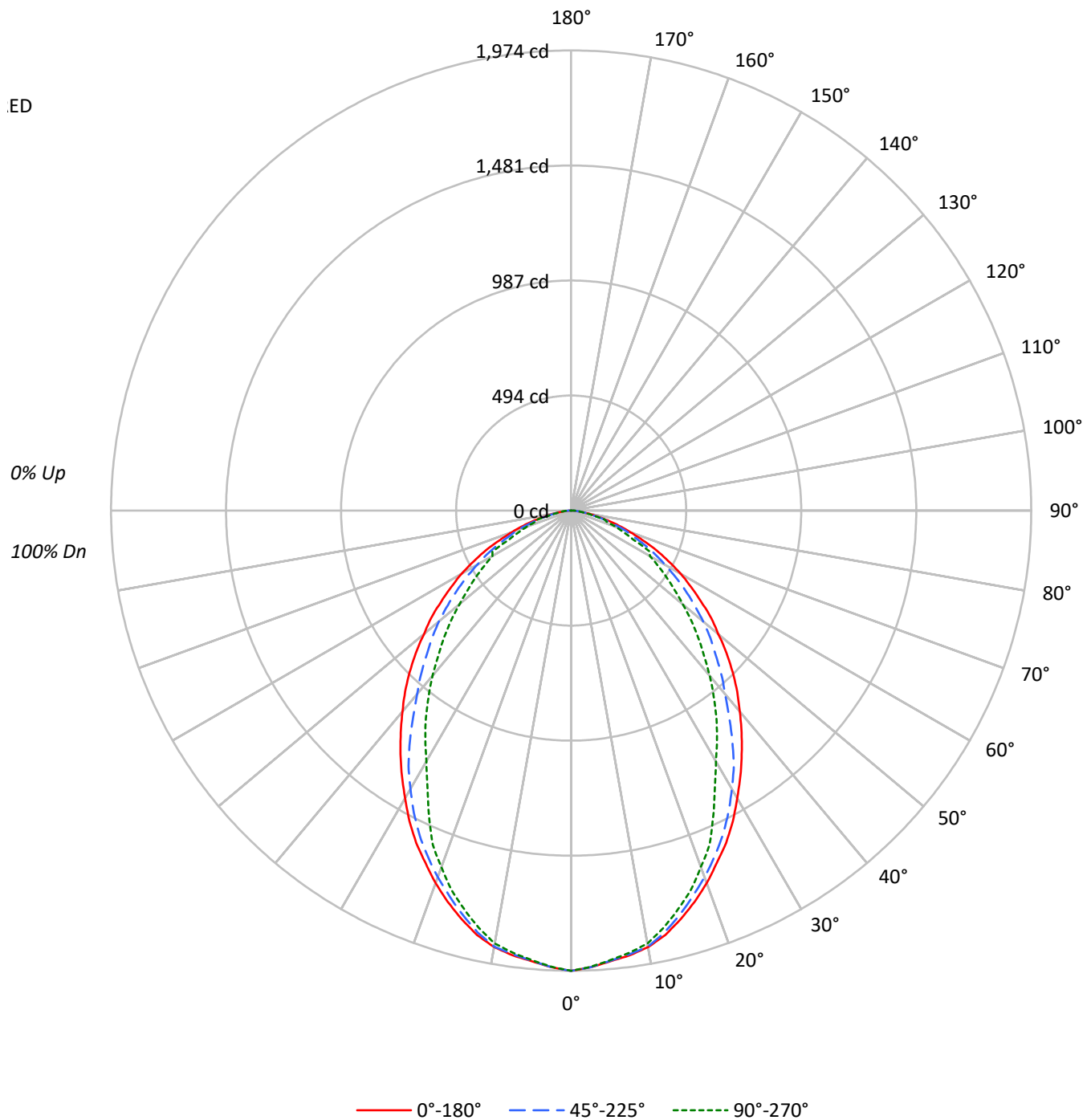
Lumens per Lamp: N/A  
Luminaire Lumens: 3876.0 lumens  
Efficiency: N/A  
Efficacy: 116.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

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

	0°	45°	90°
0°	2657	2657	2657
5°	2620	2617	2614
10°	2598	2595	2576
15°	2528	2502	2467
20°	2435	2396	2330
25°	2335	2284	2142
30°	2213	2142	1929
35°	2096	1980	1785
40°	1976	1804	1624
45°	1863	1668	1468
50°	1725	1548	1309
55°	1596	1403	1173
60°	1462	1253	1050
65°	1286	1097	930
70°	1059	961	790
75°	843	736	771
80°	566	531	495
85°	352	423	494

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1863 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.8	4.7
10°-20°	504.4	13.0
20°-30°	698.3	18.0
30°-40°	744.6	19.2
40°-50°	679.3	17.5
50°-60°	532.2	13.7
60°-70°	346.8	8.9
70°-80°	153.7	4.0
80°-90°	33.0	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°	1386.5	35.8
0°-40°	2131.1	55.0
0°-60°	3342.5	86.2
0°-90°	3876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3876.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1974	1974	1974	1974	1974	
5°	1940	1938	1938	1936	1936	184
15°	1815	1815	1796	1778	1771	510
25°	1573	1564	1538	1484	1443	722
35°	1276	1267	1205	1114	1086	798
45°	979	959	876	803	772	754
55°	680	660	598	527	500	610
65°	404	381	345	352	292	398
75°	162	151	142	135	148	174
85°	23	25	27	30	32	32
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1974.4	1974.4	1974.4	1974.4	1974.4
2.5°	1960.7	1960.7	1960.7	1958.4	1958.4
5°	1940.1	1937.9	1937.9	1935.6	1935.6
7.5°	1924.2	1921.9	1919.6	1917.3	1912.8
10°	1901.3	1901.3	1899.1	1887.6	1885.4
12.5°	1864.8	1862.5	1853.4	1837.4	1832.9
15°	1814.6	1814.6	1796.3	1778.1	1771.2
17.5°	1759.8	1757.5	1734.7	1716.5	1707.3
20°	1700.5	1695.9	1673.1	1643.4	1627.4
22.5°	1634.3	1634.3	1606.9	1568.1	1552.1
25°	1572.7	1563.5	1538.4	1483.6	1442.6
27.5°	1501.9	1488.2	1460.8	1383.2	1335.3
30°	1424.3	1417.4	1378.6	1278.2	1241.7
32.5°	1351.3	1339.8	1298.8	1193.8	1164.1
35°	1275.9	1266.8	1205.2	1113.9	1086.5
37.5°	1200.6	1189.2	1111.6	1038.5	1004.3
40°	1125.3	1111.6	1027.1	960.9	924.4
42.5°	1054.5	1036.3	954.1	883.3	842.3
45°	979.2	958.7	876.5	803.4	771.5
47.5°	903.9	885.6	810.3	735.0	698.5
50°	824.0	808.0	739.5	664.2	625.4
52.5°	757.8	732.7	666.5	591.2	559.2
55°	680.2	659.6	598.0	527.3	499.9
57.5°	609.4	588.9	531.8	465.6	442.8
60°	543.2	513.6	465.6	408.6	390.3
62.5°	470.2	447.4	406.3	358.4	381.2
65°	404.0	381.2	344.7	351.5	292.2
67.5°	331.0	319.6	287.6	255.6	246.5
70°	269.3	255.6	244.2	210.0	200.9
72.5°	214.6	200.9	184.9	166.6	159.8
75°	162.1	150.6	141.5	134.7	148.4
77.5°	111.8	107.3	100.4	93.6	91.3
80°	73.0	70.8	68.5	66.2	63.9
82.5°	43.4	43.4	43.4	43.4	43.4
85°	22.8	25.1	27.4	29.7	32.0
87.5°	13.7	13.7	16.0	18.3	20.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)