

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: P562295

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-80-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562295  
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-80-87-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

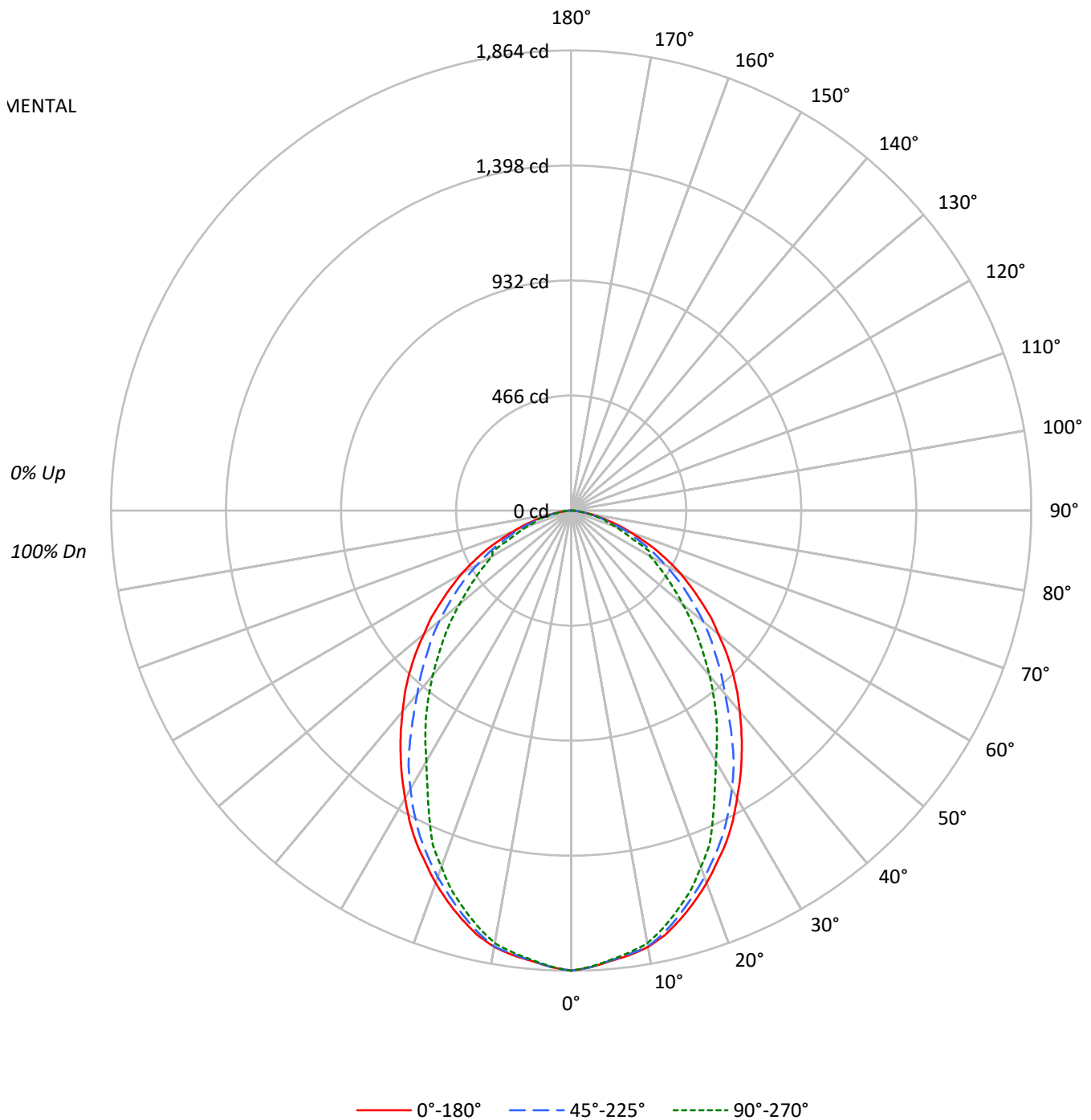
Lumens per Lamp: N/A  
Luminaire Lumens: 3659.0 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2508	2508	2508
5°	2474	2471	2468
10°	2452	2449	2432
15°	2386	2362	2329
20°	2299	2261	2200
25°	2204	2156	2022
30°	2089	2022	1821
35°	1978	1869	1685
40°	1866	1703	1533
45°	1759	1574	1386
50°	1628	1461	1236
55°	1506	1324	1107
60°	1380	1183	992
65°	1214	1036	878
70°	1000	907	746
75°	795	695	728
80°	535	501	467
85°	332	400	466

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1759 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.5	4.7
10°-20°	476.2	13.0
20°-30°	659.2	18.0
30°-40°	702.9	19.2
40°-50°	641.2	17.5
50°-60°	502.4	13.7
60°-70°	327.4	8.9
70°-80°	145.1	4.0
80°-90°	31.1	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°	1308.9	35.8
0°-40°	2011.8	55.0
0°-60°	3155.4	86.2
0°-90°	3659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3659.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1864	1864	1864	1864	1864	
5°	1832	1829	1829	1827	1827	174
15°	1713	1713	1696	1678	1672	482
25°	1485	1476	1452	1401	1362	682
35°	1204	1196	1138	1052	1026	753
45°	924	905	827	758	728	712
55°	642	623	564	498	472	576
65°	381	360	325	332	276	376
75°	153	142	134	127	140	164
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°	1863.8	1863.8	1863.8	1863.8	1863.8
2.5°	1850.9	1850.9	1850.9	1848.8	1848.8
5°	1831.5	1829.4	1829.4	1827.2	1827.2
7.5°	1816.4	1814.3	1812.1	1810.0	1805.7
10°	1794.9	1794.9	1792.7	1782.0	1779.8
12.5°	1760.4	1758.3	1749.6	1734.6	1730.3
15°	1713.0	1713.0	1695.8	1678.5	1672.1
17.5°	1661.3	1659.1	1637.6	1620.4	1611.7
20°	1605.3	1601.0	1579.4	1551.4	1536.3
22.5°	1542.8	1542.8	1516.9	1480.3	1465.2
25°	1484.6	1476.0	1452.3	1400.6	1361.8
27.5°	1417.8	1404.9	1379.0	1305.8	1260.5
30°	1344.6	1338.1	1301.5	1206.7	1172.2
32.5°	1275.6	1264.8	1226.0	1126.9	1098.9
35°	1204.5	1195.9	1137.7	1051.5	1025.7
37.5°	1133.4	1122.6	1049.4	980.4	948.1
40°	1062.3	1049.4	969.6	907.1	872.7
42.5°	995.5	978.2	900.7	833.9	795.1
45°	924.4	905.0	827.4	758.5	728.3
47.5°	853.3	836.0	764.9	693.8	659.3
50°	777.9	762.8	698.1	627.0	590.4
52.5°	715.4	691.7	629.2	558.1	527.9
55°	642.1	622.7	564.5	497.7	471.9
57.5°	575.3	555.9	502.1	439.6	418.0
60°	512.8	484.8	439.6	385.7	368.5
62.5°	443.9	422.3	383.5	338.3	359.8
65°	381.4	359.8	325.4	331.8	275.8
67.5°	312.4	301.7	271.5	241.3	232.7
70°	254.3	241.3	230.6	198.2	189.6
72.5°	202.5	189.6	174.5	157.3	150.8
75°	153.0	142.2	133.6	127.1	140.1
77.5°	105.6	101.3	94.8	88.3	86.2
80°	69.0	66.8	64.6	62.5	60.3
82.5°	40.9	40.9	40.9	40.9	40.9
85°	21.5	23.7	25.9	28.0	30.2
87.5°	12.9	12.9	15.1	17.2	19.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)