

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: P562353

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562353  
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-80-84-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

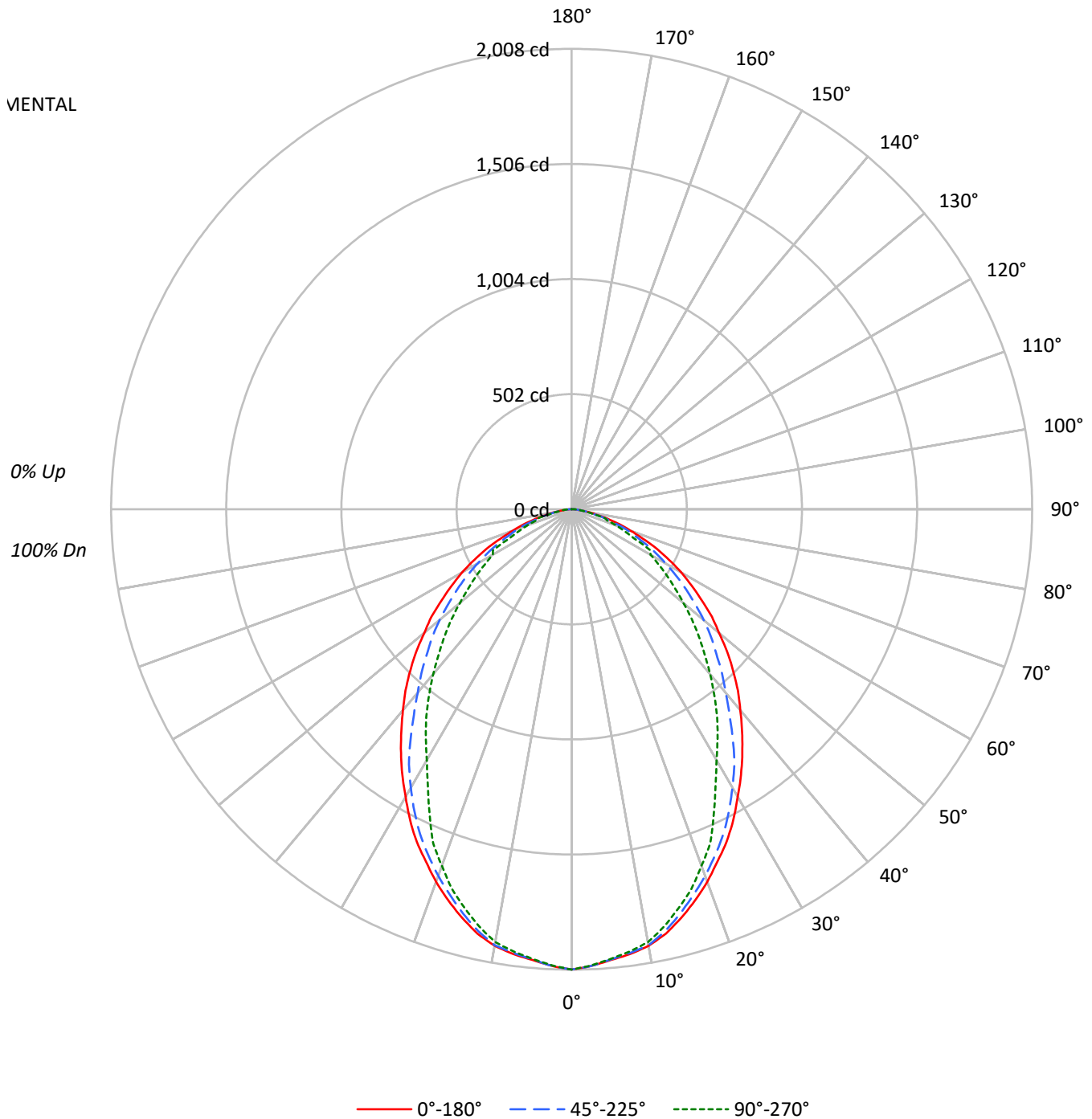
Lumens per Lamp: N/A  
Luminaire Lumens: 3941.0 lumens  
Efficiency: N/A  
Efficacy: 118.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2701	2701	2701
5°	2664	2661	2658
10°	2641	2638	2619
15°	2570	2544	2509
20°	2476	2436	2369
25°	2374	2322	2177
30°	2250	2178	1961
35°	2131	2013	1815
40°	2010	1834	1651
45°	1894	1696	1493
50°	1754	1574	1331
55°	1622	1426	1192
60°	1486	1274	1068
65°	1308	1116	946
70°	1078	977	803
75°	857	748	784
80°	576	539	504
85°	358	429	502

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1894 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	186.9	4.7
10°-20°	512.8	13.0
20°-30°	710.0	18.0
30°-40°	757.1	19.2
40°-50°	690.7	17.5
50°-60°	541.1	13.7
60°-70°	352.7	8.9
70°-80°	156.2	4.0
80°-90°	33.5	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°	1409.7	35.8
0°-40°	2166.8	55.0
0°-60°	3398.5	86.2
0°-90°	3941.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3941.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2008	2008	2008	2008	2008	
5°	1973	1970	1970	1968	1968	187
15°	1845	1845	1826	1808	1801	519
25°	1599	1590	1564	1508	1467	734
35°	1297	1288	1225	1133	1105	811
45°	996	975	891	817	784	767
55°	692	671	608	536	508	620
65°	411	388	350	357	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2007.5	2007.5	2007.5	2007.5	2007.5
2.5°	1993.6	1993.6	1993.6	1991.2	1991.2
5°	1972.7	1970.4	1970.4	1968.0	1968.0
7.5°	1956.4	1954.1	1951.8	1949.5	1944.8
10°	1933.2	1933.2	1930.9	1919.3	1917.0
12.5°	1896.1	1893.8	1884.5	1868.2	1863.6
15°	1845.0	1845.0	1826.5	1807.9	1800.9
17.5°	1789.3	1787.0	1763.8	1745.2	1736.0
20°	1729.0	1724.4	1701.1	1671.0	1654.7
22.5°	1661.7	1661.7	1633.8	1594.4	1578.1
25°	1599.0	1589.7	1564.2	1508.5	1466.7
27.5°	1527.1	1513.2	1485.3	1406.4	1357.7
30°	1448.2	1441.2	1401.8	1299.6	1262.5
32.5°	1373.9	1362.3	1320.5	1213.8	1183.6
35°	1297.3	1288.0	1225.4	1132.6	1104.7
37.5°	1220.7	1209.1	1130.2	1056.0	1021.2
40°	1144.2	1130.2	1044.4	977.1	939.9
42.5°	1072.2	1053.6	970.1	898.1	856.4
45°	995.6	974.7	891.2	816.9	784.4
47.5°	919.0	900.5	823.9	747.3	710.2
50°	837.8	821.6	751.9	675.4	635.9
52.5°	770.5	745.0	677.7	601.1	568.6
55°	691.6	670.7	608.0	536.1	508.3
57.5°	619.7	598.8	540.7	473.4	450.2
60°	552.4	522.2	473.4	415.4	396.9
62.5°	478.1	454.9	413.1	364.4	387.6
65°	410.8	387.6	350.4	357.4	297.1
67.5°	336.5	324.9	292.4	259.9	250.6
70°	273.9	259.9	248.3	213.5	204.2
72.5°	218.2	204.2	188.0	169.4	162.5
75°	164.8	153.2	143.9	136.9	150.9
77.5°	113.7	109.1	102.1	95.2	92.8
80°	74.3	71.9	69.6	67.3	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.8	30.2	32.5
87.5°	13.9	13.9	16.2	18.6	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)