

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: P562739

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562739  
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-LD4-2LO-40-UNV-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

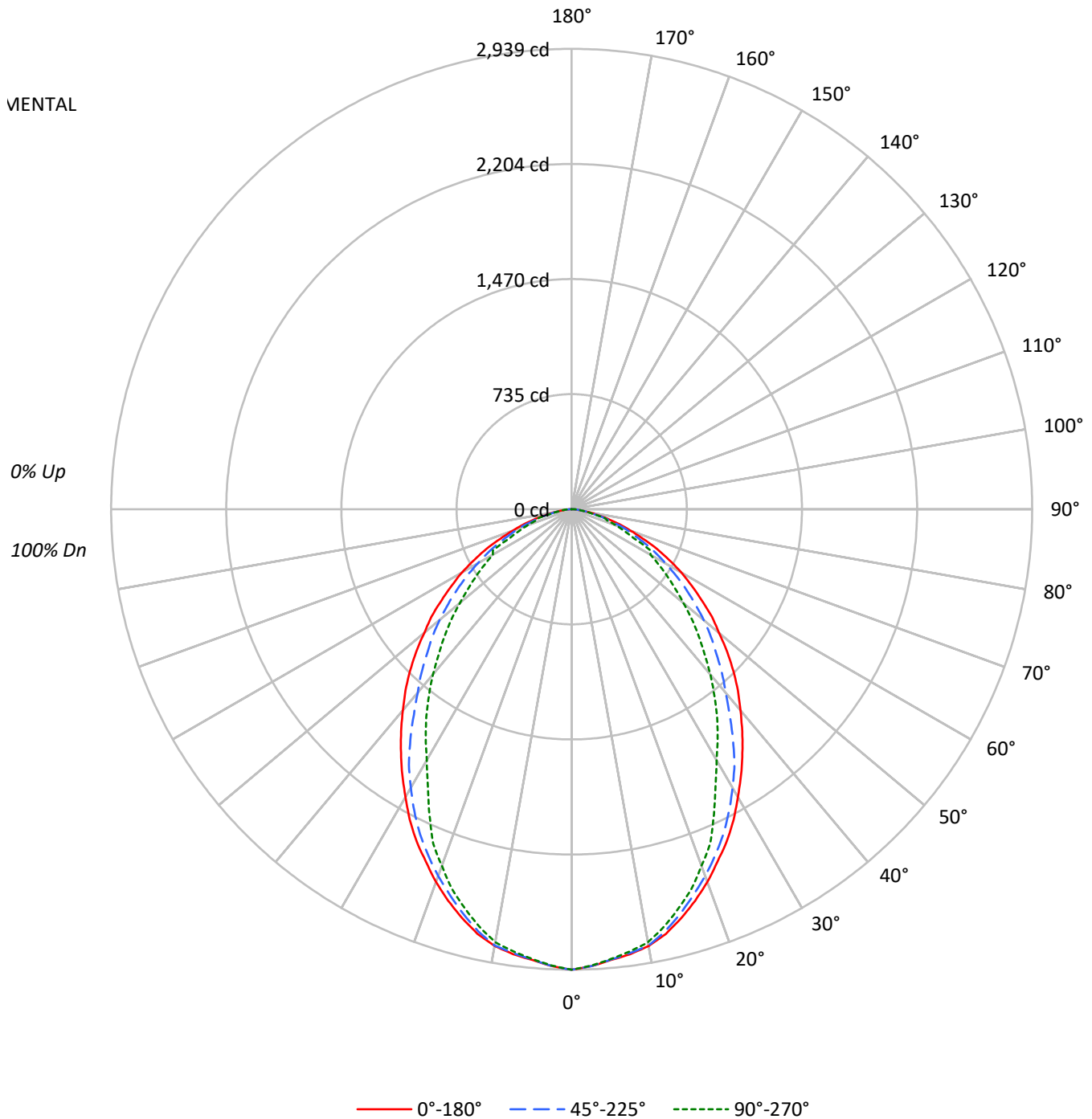
Lumens per Lamp: N/A  
Luminaire Lumens: 5770.0 lumens  
Efficiency: N/A  
Efficacy: 123.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3955	3955	3955
5°	3901	3896	3892
10°	3867	3862	3835
15°	3763	3725	3673
20°	3625	3566	3469
25°	3476	3400	3188
30°	3294	3189	2872
35°	3120	2947	2657
40°	2942	2686	2417
45°	2774	2483	2185
50°	2568	2304	1949
55°	2375	2088	1746
60°	2176	1865	1563
65°	1915	1634	1385
70°	1577	1430	1176
75°	1254	1095	1148
80°	842	790	737
85°	525	630	735

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2774 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.6	4.7
10°-20°	750.9	13.0
20°-30°	1039.5	18.0
30°-40°	1108.4	19.2
40°-50°	1011.2	17.5
50°-60°	792.2	13.7
60°-70°	516.3	8.9
70°-80°	228.7	4.0
80°-90°	49.1	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°	2064.0	35.8
0°-40°	3172.4	55.0
0°-60°	4975.8	86.2
0°-90°	5770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5770.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2939	2939	2939	2939	2939	
5°	2888	2885	2885	2881	2881	274
15°	2701	2701	2674	2647	2637	759
25°	2341	2328	2290	2209	2148	1075
35°	1899	1886	1794	1658	1617	1187
45°	1458	1427	1305	1196	1148	1123
55°	1013	982	890	785	744	908
65°	601	567	513	523	435	593
75°	241	224	211	200	221	259
85°	34	37	41	44	48	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2939.2	2939.2	2939.2	2939.2	2939.2
2.5°	2918.8	2918.8	2918.8	2915.4	2915.4
5°	2888.2	2884.8	2884.8	2881.4	2881.4
7.5°	2864.4	2861.0	2857.6	2854.2	2847.4
10°	2830.4	2830.4	2827.0	2810.0	2806.6
12.5°	2776.1	2772.7	2759.1	2735.3	2728.5
15°	2701.3	2701.3	2674.1	2646.9	2636.8
17.5°	2619.8	2616.4	2582.4	2555.2	2541.6
20°	2531.4	2524.6	2490.6	2446.5	2422.7
22.5°	2432.9	2432.9	2392.1	2334.3	2310.6
25°	2341.1	2327.5	2290.2	2208.6	2147.5
27.5°	2235.8	2215.4	2174.6	2059.1	1987.8
30°	2120.3	2110.1	2052.3	1902.8	1848.4
32.5°	2011.5	1994.6	1933.4	1777.1	1732.9
35°	1899.4	1885.8	1794.1	1658.2	1617.4
37.5°	1787.3	1770.3	1654.8	1546.0	1495.1
40°	1675.2	1654.8	1529.0	1430.5	1376.1
42.5°	1569.8	1542.6	1420.3	1315.0	1253.8
45°	1457.7	1427.1	1304.8	1196.1	1148.5
47.5°	1345.6	1318.4	1206.2	1094.1	1039.7
50°	1226.6	1202.8	1100.9	988.8	931.0
52.5°	1128.1	1090.7	992.2	880.0	832.5
55°	1012.6	982.0	890.2	784.9	744.1
57.5°	907.2	876.7	791.7	693.2	659.2
60°	808.7	764.5	693.2	608.2	581.0
62.5°	700.0	666.0	604.8	533.5	567.4
65°	601.4	567.4	513.1	523.3	434.9
67.5°	492.7	475.7	428.1	380.6	367.0
70°	400.9	380.6	363.6	312.6	299.0
72.5°	319.4	299.0	275.2	248.0	237.9
75°	241.2	224.3	210.7	200.5	220.9
77.5°	166.5	159.7	149.5	139.3	135.9
80°	108.7	105.3	101.9	98.5	95.1
82.5°	64.6	64.6	64.6	64.6	64.6
85°	34.0	37.4	40.8	44.2	47.6
87.5°	20.4	20.4	23.8	27.2	30.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)