

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: P563824

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563824  
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-LD4-4LO-35-UNV-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

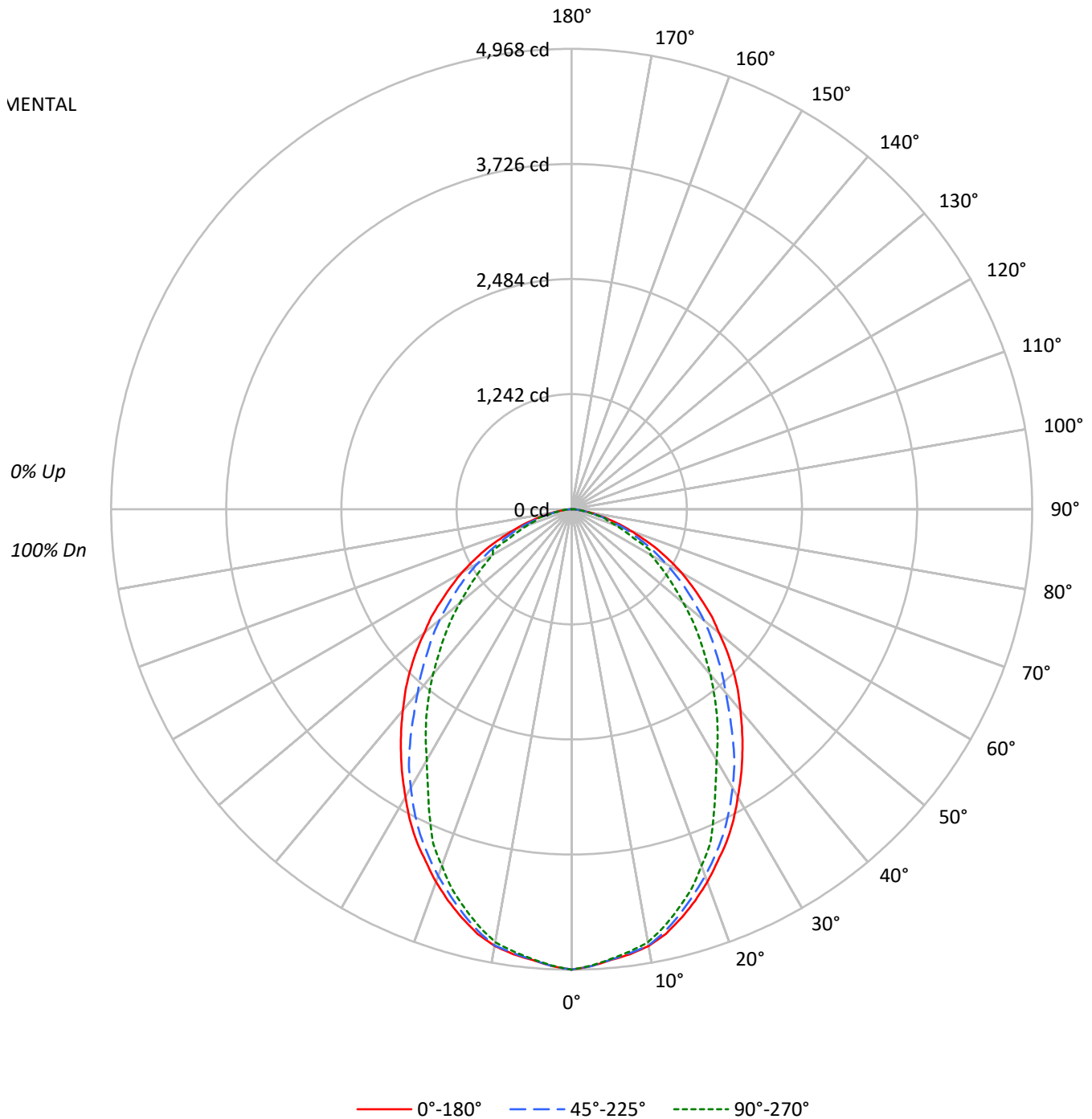
Lumens per Lamp: N/A  
Luminaire Lumens: 9753.0 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6684	6684	6684
5°	6594	6586	6578
10°	6537	6529	6482
15°	6360	6296	6208
20°	6127	6028	5863
25°	5875	5747	5389
30°	5568	5390	4854
35°	5274	4981	4491
40°	4973	4539	4086
45°	4688	4197	3694
50°	4340	3895	3294
55°	4015	3530	2951
60°	3678	3153	2643
65°	3237	2761	2341
70°	2666	2417	1988
75°	2120	1851	1941
80°	1424	1335	1246
85°	886	1064	1241

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4688 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	462.5	4.7
10°-20°	1269.2	13.0
20°-30°	1757.1	18.0
30°-40°	1873.6	19.2
40°-50°	1709.2	17.5
50°-60°	1339.1	13.7
60°-70°	872.7	8.9
70°-80°	386.7	4.0
80°-90°	83.0	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°	3488.7	35.8
0°-40°	5362.3	55.0
0°-60°	8410.6	86.2
0°-90°	9753.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9753.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4968	4968	4968	4968	4968	
5°	4882	4876	4876	4870	4870	463
15°	4566	4566	4520	4474	4457	1284
25°	3957	3934	3871	3733	3630	1817
35°	3211	3188	3032	2803	2734	2007
45°	2464	2412	2206	2022	1941	1898
55°	1712	1660	1505	1327	1258	1535
65°	1017	959	867	884	735	1002
75°	408	379	356	339	373	437
85°	57	63	69	75	80	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4968.0	4968.0	4968.0	4968.0	4968.0
2.5°	4933.6	4933.6	4933.6	4927.8	4927.8
5°	4881.9	4876.2	4876.2	4870.4	4870.4
7.5°	4841.7	4835.9	4830.2	4824.5	4813.0
10°	4784.3	4784.3	4778.5	4749.8	4744.1
12.5°	4692.4	4686.6	4663.6	4623.4	4612.0
15°	4566.0	4566.0	4520.1	4474.1	4456.9
17.5°	4428.2	4422.4	4365.0	4319.0	4296.1
20°	4278.8	4267.4	4209.9	4135.3	4095.0
22.5°	4112.3	4112.3	4043.4	3945.7	3905.5
25°	3957.2	3934.2	3871.1	3733.2	3629.8
27.5°	3779.2	3744.7	3675.8	3480.5	3359.9
30°	3583.9	3566.7	3469.0	3216.3	3124.4
32.5°	3400.1	3371.4	3268.0	3003.8	2929.1
35°	3210.6	3187.6	3032.5	2802.8	2733.9
37.5°	3021.0	2992.3	2797.0	2613.3	2527.1
40°	2831.5	2797.0	2584.5	2418.0	2326.1
42.5°	2653.5	2607.5	2400.7	2222.7	2119.3
45°	2463.9	2412.2	2205.5	2021.7	1941.3
47.5°	2274.4	2228.4	2038.9	1849.4	1757.5
50°	2073.4	2033.2	1860.9	1671.3	1573.7
52.5°	1906.8	1843.6	1677.1	1487.5	1407.1
55°	1711.5	1659.8	1504.8	1326.7	1257.8
57.5°	1533.5	1481.8	1338.2	1171.7	1114.2
60°	1366.9	1292.3	1171.7	1028.1	982.1
62.5°	1183.1	1125.7	1022.3	901.7	959.1
65°	1016.6	959.1	867.3	884.5	735.2
67.5°	832.8	804.1	723.7	643.3	620.3
70°	677.7	643.3	614.5	528.4	505.4
72.5°	539.9	505.4	465.2	419.3	402.0
75°	407.8	379.1	356.1	338.9	373.3
77.5°	281.4	269.9	252.7	235.5	229.7
80°	183.8	178.0	172.3	166.6	160.8
82.5°	109.1	109.1	109.1	109.1	109.1
85°	57.4	63.2	68.9	74.7	80.4
87.5°	34.5	34.5	40.2	45.9	51.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)