

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: P563516

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563516  
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-LD4-3STD-40-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

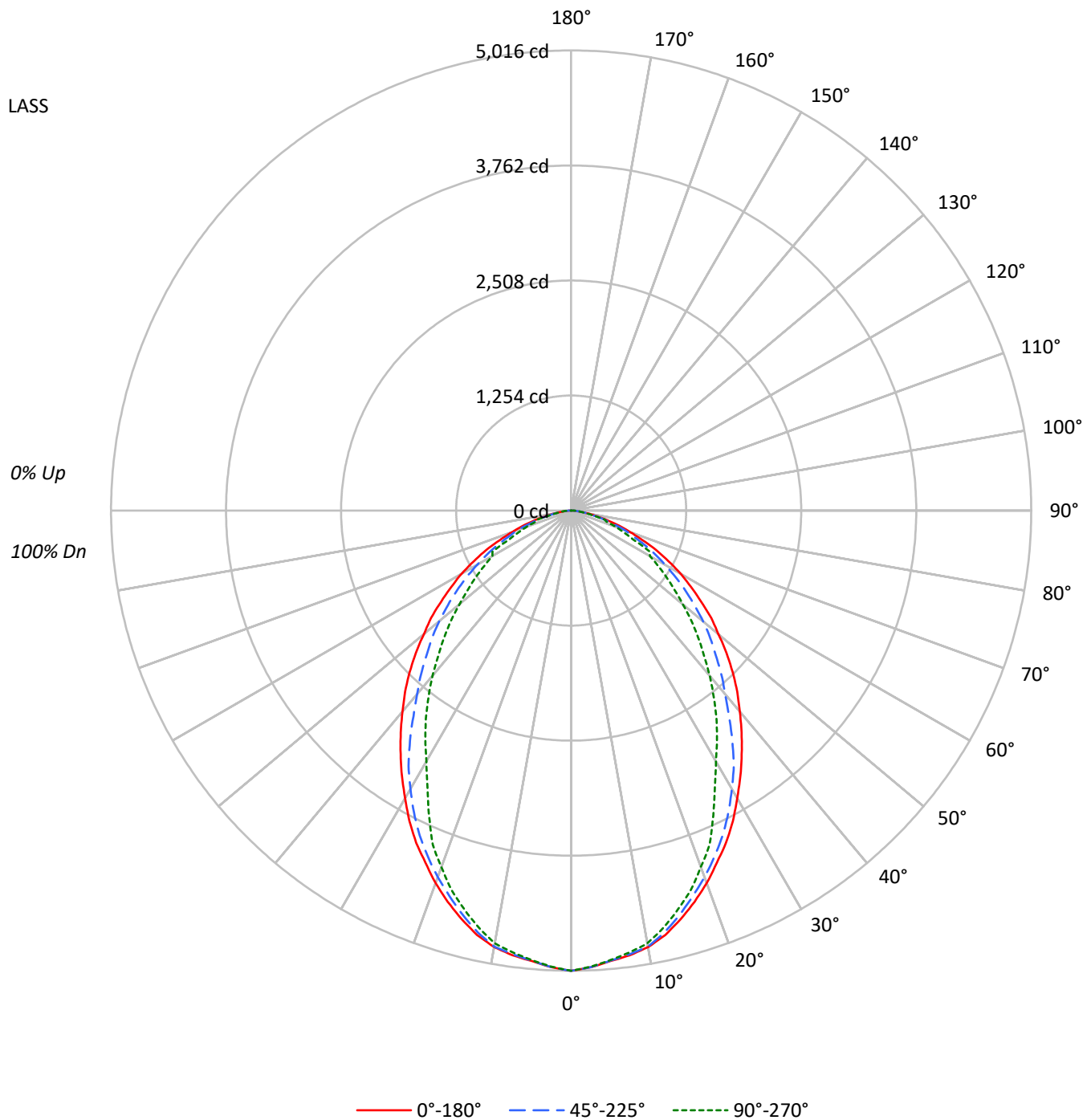
Lumens per Lamp: N/A  
Luminaire Lumens: 9848.0 lumens  
Efficiency: N/A  
Efficacy: 98.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	6750	6750	6750
5°	6658	6650	6642
10°	6600	6592	6545
15°	6422	6358	6269
20°	6186	6087	5921
25°	5932	5803	5441
30°	5622	5442	4901
35°	5325	5030	4534
40°	5022	4584	4125
45°	4734	4238	3730
50°	4382	3933	3326
55°	4054	3564	2979
60°	3714	3184	2669
65°	3268	2788	2363
70°	2692	2441	2007
75°	2141	1869	1960
80°	1438	1348	1258
85°	895	1074	1254

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4734 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	467.0	4.7
10°-20°	1281.5	13.0
20°-30°	1774.2	18.0
30°-40°	1891.8	19.2
40°-50°	1725.9	17.5
50°-60°	1352.1	13.7
60°-70°	881.2	8.9
70°-80°	390.4	4.0
80°-90°	83.8	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°	3522.7	35.8
0°-40°	5414.5	55.0
0°-60°	8492.5	86.2
0°-90°	9848.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9848.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5016	5016	5016	5016	5016	
5°	4929	4924	4924	4918	4918	468
15°	4610	4610	4564	4518	4500	1296
25°	3996	3973	3909	3770	3665	1834
35°	3242	3219	3062	2830	2760	2027
45°	2488	2436	2227	2041	1960	1916
55°	1728	1676	1519	1340	1270	1550
65°	1026	968	876	893	742	1012
75°	412	383	360	342	377	441
85°	58	64	70	75	81	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5016.4	5016.4	5016.4	5016.4	5016.4
2.5°	4981.6	4981.6	4981.6	4975.8	4975.8
5°	4929.4	4923.6	4923.6	4917.9	4917.9
7.5°	4888.9	4883.1	4877.3	4871.5	4859.9
10°	4830.9	4830.9	4825.1	4796.1	4790.3
12.5°	4738.1	4732.3	4709.1	4668.5	4656.9
15°	4610.5	4610.5	4564.1	4517.7	4500.3
17.5°	4471.3	4465.5	4407.5	4361.1	4337.9
20°	4320.5	4308.9	4250.9	4175.5	4134.9
22.5°	4152.3	4152.3	4082.7	3984.2	3943.6
25°	3995.8	3972.6	3908.8	3769.6	3665.2
27.5°	3816.0	3781.2	3711.6	3514.4	3392.6
30°	3618.8	3601.4	3502.8	3247.6	3154.8
32.5°	3433.2	3404.2	3299.8	3033.1	2957.7
35°	3241.8	3218.6	3062.1	2830.1	2760.5
37.5°	3050.5	3021.5	2824.3	2638.7	2551.7
40°	2859.1	2824.3	2609.7	2441.5	2348.7
42.5°	2679.3	2632.9	2424.1	2244.3	2140.0
45°	2487.9	2435.7	2227.0	2041.4	1960.2
47.5°	2296.5	2250.1	2058.8	1867.4	1774.6
50°	2093.6	2053.0	1879.0	1687.6	1589.0
52.5°	1925.4	1861.6	1693.4	1502.0	1420.8
55°	1728.2	1676.0	1519.4	1339.7	1270.1
57.5°	1548.4	1496.2	1351.2	1183.1	1125.1
60°	1380.2	1304.9	1183.1	1038.1	991.7
62.5°	1194.7	1136.7	1032.3	910.5	968.5
65°	1026.5	968.5	875.7	893.1	742.3
67.5°	840.9	811.9	730.7	649.5	626.3
70°	684.3	649.5	620.5	533.5	510.3
72.5°	545.1	510.3	469.7	423.4	406.0
75°	411.8	382.8	359.6	342.2	377.0
77.5°	284.2	272.6	255.2	237.8	232.0
80°	185.6	179.8	174.0	168.2	162.4
82.5°	110.2	110.2	110.2	110.2	110.2
85°	58.0	63.8	69.6	75.4	81.2
87.5°	34.8	34.8	40.6	46.4	52.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)