

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: P563897

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563897  
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-40-UNV-80-88-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

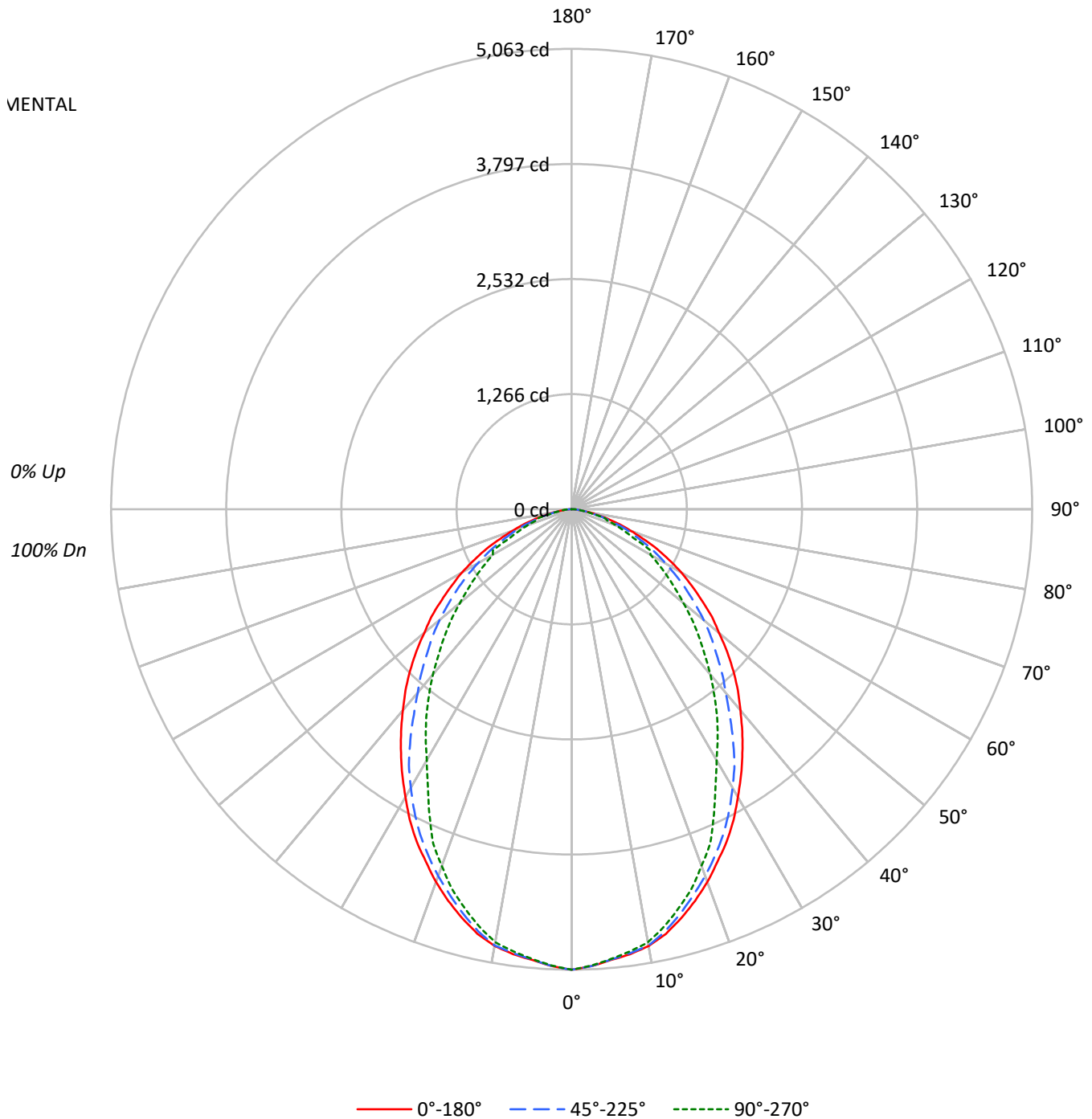
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9940.0 lumens  
Efficiency: N/A  
Efficacy: 106.2 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	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°	6813	6813	6813
5°	6720	6712	6704
10°	6662	6654	6606
15°	6482	6417	6327
20°	6244	6143	5976
25°	5987	5857	5492
30°	5675	5493	4947
35°	5375	5077	4577
40°	5069	4627	4164
45°	4778	4277	3765
50°	4423	3970	3357
55°	4092	3598	3007
60°	3749	3213	2694
65°	3299	2814	2386
70°	2717	2464	2026
75°	2161	1887	1978
80°	1451	1361	1270
85°	903	1084	1264

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4778 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	471.3	4.7
10°-20°	1293.5	13.0
20°-30°	1790.8	18.0
30°-40°	1909.5	19.2
40°-50°	1742.0	17.5
50°-60°	1364.7	13.7
60°-70°	889.5	8.9
70°-80°	394.1	4.0
80°-90°	84.6	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°	3555.6	35.8
0°-40°	5465.1	55.0
0°-60°	8571.9	86.2
0°-90°	9940.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9940.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5063	5063	5063	5063	5063	
5°	4976	4970	4970	4964	4964	472
15°	4654	4654	4607	4560	4542	1308
25°	4033	4010	3945	3805	3699	1852
35°	3272	3249	3091	2856	2786	2046
45°	2511	2458	2248	2060	1978	1934
55°	1744	1692	1534	1352	1282	1565
65°	1036	978	884	901	749	1021
75°	416	386	363	345	380	445
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5063.3	5063.3	5063.3	5063.3	5063.3
2.5°	5028.2	5028.2	5028.2	5022.3	5022.3
5°	4975.5	4969.6	4969.6	4963.8	4963.8
7.5°	4934.5	4928.7	4922.8	4917.0	4905.3
10°	4876.0	4876.0	4870.1	4840.9	4835.0
12.5°	4782.3	4776.5	4753.1	4712.1	4700.4
15°	4653.6	4653.6	4606.7	4559.9	4542.3
17.5°	4513.1	4507.2	4448.7	4401.9	4378.4
20°	4360.9	4349.2	4290.6	4214.5	4173.6
22.5°	4191.1	4191.1	4120.9	4021.4	3980.4
25°	4033.1	4009.7	3945.3	3804.8	3699.4
27.5°	3851.6	3816.5	3746.3	3547.2	3424.3
30°	3652.6	3635.0	3535.5	3278.0	3184.3
32.5°	3465.3	3436.0	3330.7	3061.4	2985.3
35°	3272.1	3248.7	3090.7	2856.5	2786.3
37.5°	3079.0	3049.7	2850.7	2663.4	2575.6
40°	2885.8	2850.7	2634.1	2464.3	2370.7
42.5°	2704.3	2657.5	2446.8	2265.3	2160.0
45°	2511.2	2458.5	2247.8	2060.4	1978.5
47.5°	2318.0	2271.2	2078.0	1884.8	1791.2
50°	2113.1	2072.1	1896.5	1703.4	1603.9
52.5°	1943.4	1879.0	1709.2	1516.1	1434.1
55°	1744.4	1691.7	1533.6	1352.2	1281.9
57.5°	1562.9	1510.2	1363.9	1194.1	1135.6
60°	1393.1	1317.0	1194.1	1047.8	1001.0
62.5°	1205.8	1147.3	1041.9	919.0	977.5
65°	1036.1	977.5	883.9	901.4	749.3
67.5°	848.8	819.5	737.5	655.6	632.2
70°	690.7	655.6	626.3	538.5	515.1
72.5°	550.2	515.1	474.1	427.3	409.7
75°	415.6	386.3	362.9	345.4	380.5
77.5°	286.8	275.1	257.6	240.0	234.1
80°	187.3	181.5	175.6	169.8	163.9
82.5°	111.2	111.2	111.2	111.2	111.2
85°	58.5	64.4	70.2	76.1	81.9
87.5°	35.1	35.1	41.0	46.8	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)