

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: P563983

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-81-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563983  
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-50-UNV-81-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

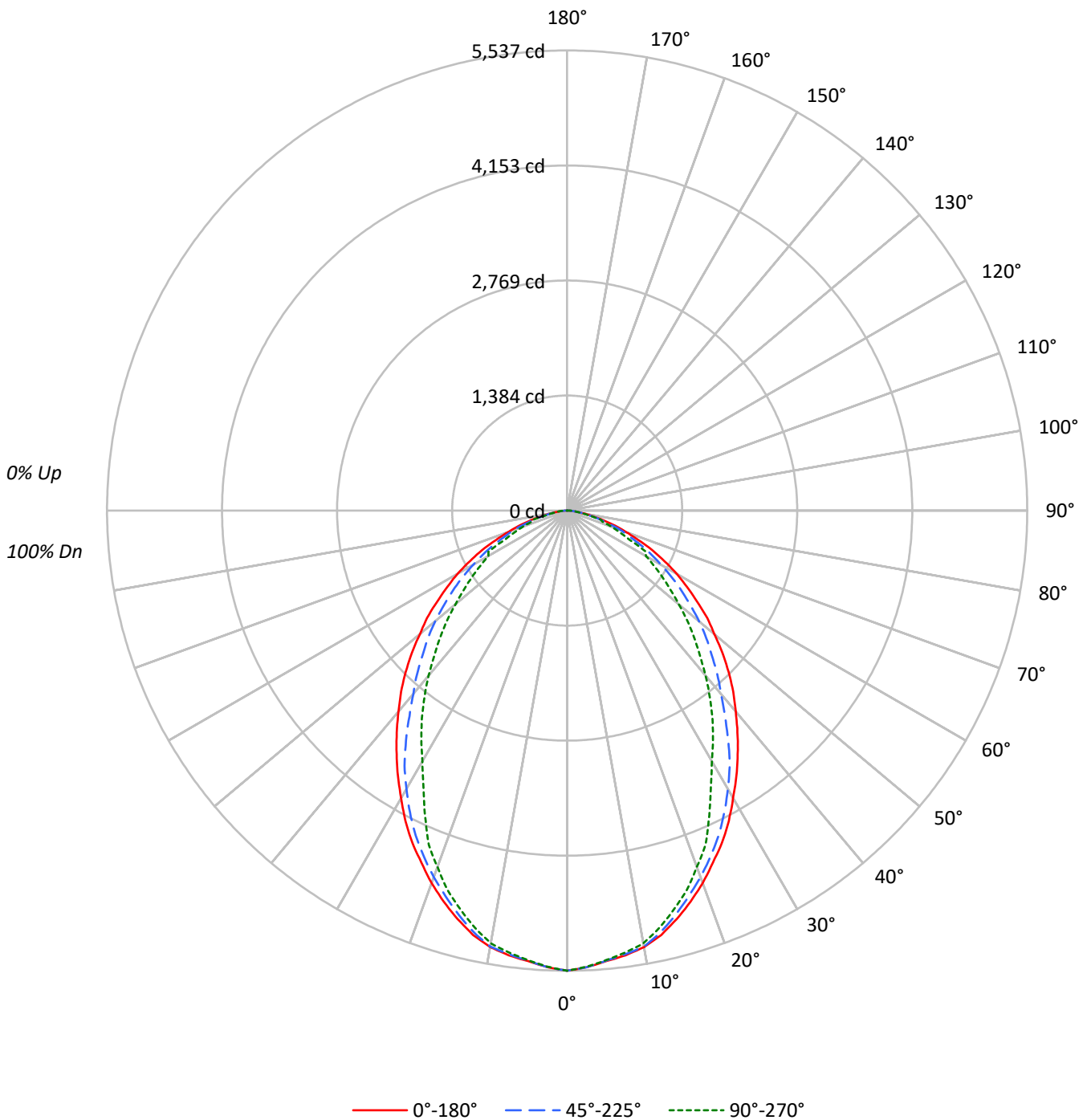
Lumens per Lamp: N/A  
Luminaire Lumens: 10870.0 lumens  
Efficiency: N/A  
Efficacy: 116.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	7450	7450	7450
5°	7349	7340	7331
10°	7285	7276	7224
15°	7089	7017	6919
20°	6828	6718	6535
25°	6548	6405	6006
30°	6206	6007	5410
35°	5877	5551	5005
40°	5543	5059	4553
45°	5225	4677	4117
50°	4837	4341	3671
55°	4475	3934	3289
60°	4100	3514	2946
65°	3607	3077	2609
70°	2971	2694	2216
75°	2363	2063	2163
80°	1587	1488	1389
85°	988	1186	1383

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5225 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	515.4	4.7
10°-20°	1414.5	13.0
20°-30°	1958.3	18.0
30°-40°	2088.1	19.2
40°-50°	1905.0	17.5
50°-60°	1492.4	13.7
60°-70°	972.7	8.9
70°-80°	430.9	4.0
80°-90°	92.5	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°	3888.3	35.8
0°-40°	5976.4	55.0
0°-60°	9373.8	86.2
0°-90°	10870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10870.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5537	5537	5537	5537	5537	
5°	5441	5435	5435	5428	5428	516
15°	5089	5089	5038	4986	4967	1431
25°	4410	4385	4314	4161	4046	2025
35°	3578	3553	3380	3124	3047	2237
45°	2746	2688	2458	2253	2164	2115
55°	1908	1850	1677	1479	1402	1711
65°	1133	1069	967	986	819	1117
75°	454	422	397	378	416	487
85°	64	70	77	83	90	89
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5537.0	5537.0	5537.0	5537.0	5537.0
2.5°	5498.6	5498.6	5498.6	5492.2	5492.2
5°	5441.0	5434.6	5434.6	5428.2	5428.2
7.5°	5396.2	5389.8	5383.4	5377.0	5364.2
10°	5332.2	5332.2	5325.8	5293.8	5287.4
12.5°	5229.8	5223.4	5197.8	5153.0	5140.2
15°	5088.9	5088.9	5037.7	4986.5	4967.3
17.5°	4935.3	4928.9	4864.9	4813.7	4788.1
20°	4768.9	4756.1	4692.1	4608.9	4564.1
22.5°	4583.3	4583.3	4506.4	4397.6	4352.8
25°	4410.4	4384.8	4314.4	4160.8	4045.6
27.5°	4212.0	4173.6	4096.8	3879.1	3744.7
30°	3994.3	3975.1	3866.3	3584.7	3482.2
32.5°	3789.5	3757.5	3642.3	3347.8	3264.6
35°	3578.3	3552.7	3379.8	3123.8	3047.0
37.5°	3367.0	3335.0	3117.4	2912.5	2816.5
40°	3155.8	3117.4	2880.5	2694.9	2592.5
42.5°	2957.4	2906.1	2675.7	2477.3	2362.0
45°	2746.1	2688.5	2458.1	2253.2	2163.6
47.5°	2534.9	2483.7	2272.4	2061.2	1958.8
50°	2310.8	2266.0	2074.0	1862.7	1753.9
52.5°	2125.2	2054.8	1869.1	1657.9	1568.3
55°	1907.6	1849.9	1677.1	1478.7	1401.9
57.5°	1709.1	1651.5	1491.5	1305.8	1241.8
60°	1523.5	1440.3	1305.8	1145.8	1094.6
62.5°	1318.6	1254.6	1139.4	1005.0	1069.0
65°	1133.0	1069.0	966.6	985.8	819.4
67.5°	928.2	896.2	806.6	716.9	691.3
70°	755.3	716.9	684.9	588.9	563.3
72.5°	601.7	563.3	518.5	467.3	448.1
75°	454.5	422.5	396.9	377.7	416.1
77.5°	313.7	300.9	281.7	262.4	256.0
80°	204.8	198.4	192.0	185.6	179.2
82.5°	121.6	121.6	121.6	121.6	121.6
85°	64.0	70.4	76.8	83.2	89.6
87.5°	38.4	38.4	44.8	51.2	57.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)