

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: P563526

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563526  
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-81-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

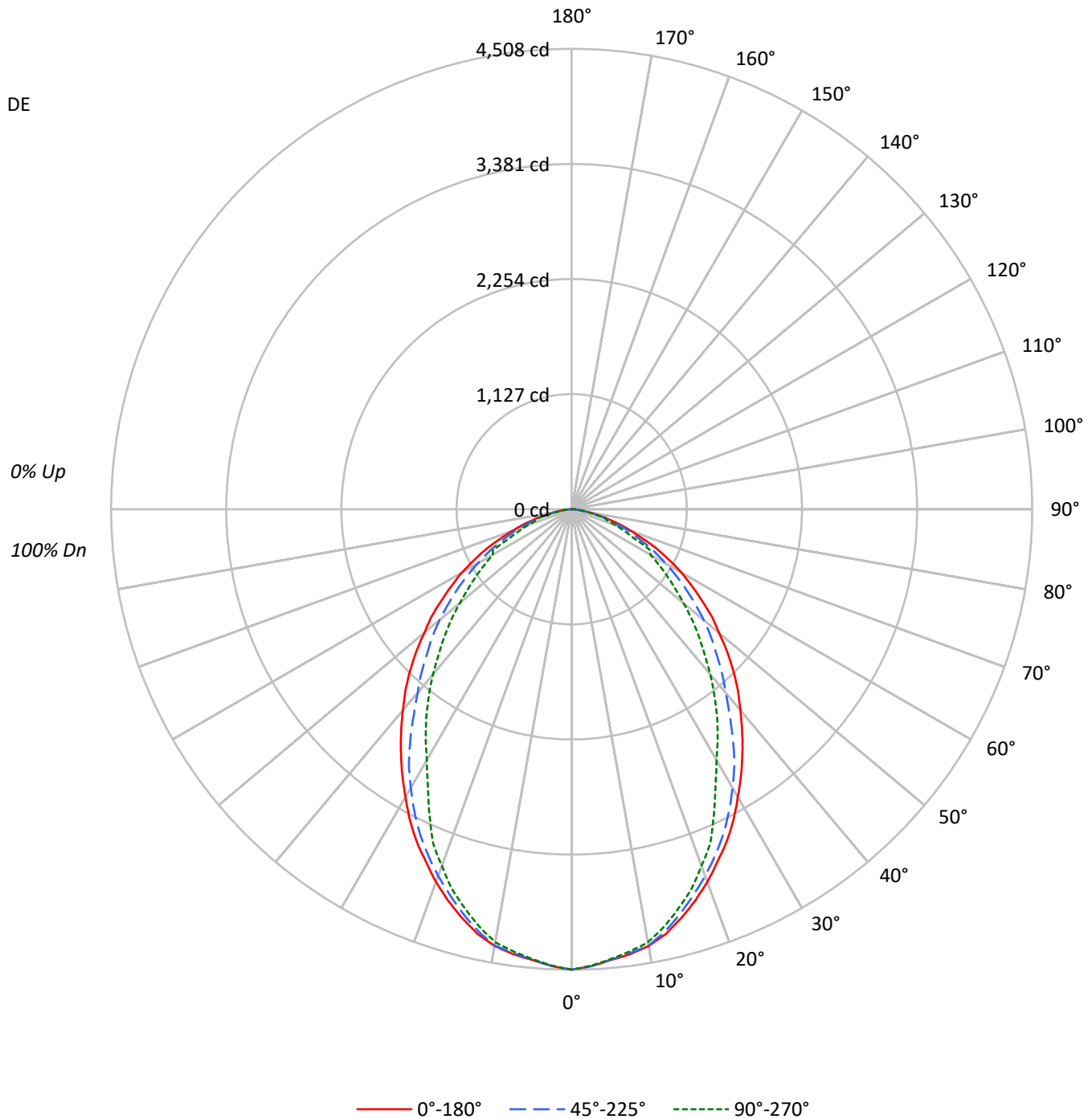
Lumens per Lamp: N/A  
Luminaire Lumens: 8850.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	6066	6066	6066
5°	5983	5976	5969
10°	5931	5924	5881
15°	5771	5713	5633
20°	5559	5470	5321
25°	5331	5215	4890
30°	5053	4891	4405
35°	4785	4520	4075
40°	4513	4119	3707
45°	4254	3808	3352
50°	3938	3535	2989
55°	3643	3203	2677
60°	3338	2861	2398
65°	2937	2506	2124
70°	2419	2194	1804
75°	1923	1680	1761
80°	1292	1211	1130
85°	804	965	1127

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4254 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	419.6	4.7
10°-20°	1151.7	13.0
20°-30°	1594.4	18.0
30°-40°	1700.1	19.2
40°-50°	1551.0	17.5
50°-60°	1215.1	13.7
60°-70°	791.9	8.9
70°-80°	350.8	4.0
80°-90°	75.3	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°	3165.7	35.8
0°-40°	4865.8	55.0
0°-60°	7631.9	86.2
0°-90°	8850.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8850.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4508	4508	4508	4508	4508	
5°	4430	4425	4425	4420	4420	421
15°	4143	4143	4102	4060	4044	1165
25°	3591	3570	3513	3388	3294	1649
35°	2913	2892	2752	2543	2481	1821
45°	2236	2189	2001	1834	1762	1722
55°	1553	1506	1366	1204	1141	1393
65°	922	870	787	803	667	909
75°	370	344	323	308	339	397
85°	52	57	62	68	73	72
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4508.1	4508.1	4508.1	4508.1	4508.1
2.5°	4476.8	4476.8	4476.8	4471.6	4471.6
5°	4429.9	4424.7	4424.7	4419.5	4419.5
7.5°	4393.4	4388.2	4383.0	4377.8	4367.4
10°	4341.3	4341.3	4336.1	4310.0	4304.8
12.5°	4257.9	4252.7	4231.9	4195.4	4184.9
15°	4143.3	4143.3	4101.6	4059.9	4044.2
17.5°	4018.2	4013.0	3960.8	3919.2	3898.3
20°	3882.7	3872.3	3820.1	3752.4	3715.9
22.5°	3731.5	3731.5	3669.0	3580.4	3543.9
25°	3590.8	3570.0	3512.6	3387.6	3293.8
27.5°	3429.3	3398.0	3335.5	3158.3	3048.8
30°	3252.1	3236.4	3147.8	2918.5	2835.1
32.5°	3085.3	3059.2	2965.4	2725.7	2657.9
35°	2913.3	2892.5	2751.7	2543.3	2480.7
37.5°	2741.3	2715.3	2538.1	2371.3	2293.1
40°	2569.3	2538.1	2345.2	2194.1	2110.7
42.5°	2407.8	2366.1	2178.5	2016.9	1923.1
45°	2235.8	2188.9	2001.3	1834.5	1761.5
47.5°	2063.8	2022.1	1850.1	1678.1	1594.8
50°	1881.4	1844.9	1688.6	1516.6	1428.0
52.5°	1730.3	1672.9	1521.8	1349.8	1276.9
55°	1553.1	1506.2	1365.5	1203.9	1141.3
57.5°	1391.5	1344.6	1214.3	1063.2	1011.1
60°	1240.4	1172.6	1063.2	932.9	891.2
62.5°	1073.6	1021.5	927.7	818.2	870.3
65°	922.5	870.3	787.0	802.6	667.1
67.5°	755.7	729.6	656.7	583.7	562.9
70°	615.0	583.7	557.6	479.5	458.6
72.5°	489.9	458.6	422.1	380.4	364.8
75°	370.0	344.0	323.1	307.5	338.8
77.5°	255.4	244.9	229.3	213.7	208.5
80°	166.8	161.6	156.3	151.1	145.9
82.5°	99.0	99.0	99.0	99.0	99.0
85°	52.1	57.3	62.5	67.8	73.0
87.5°	31.3	31.3	36.5	41.7	46.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)