

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: P563205

Luminaire Tested: FSR-24-4-LD4-3HI-50-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563205  
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-LD4-3HI-50-UNV-81-86-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

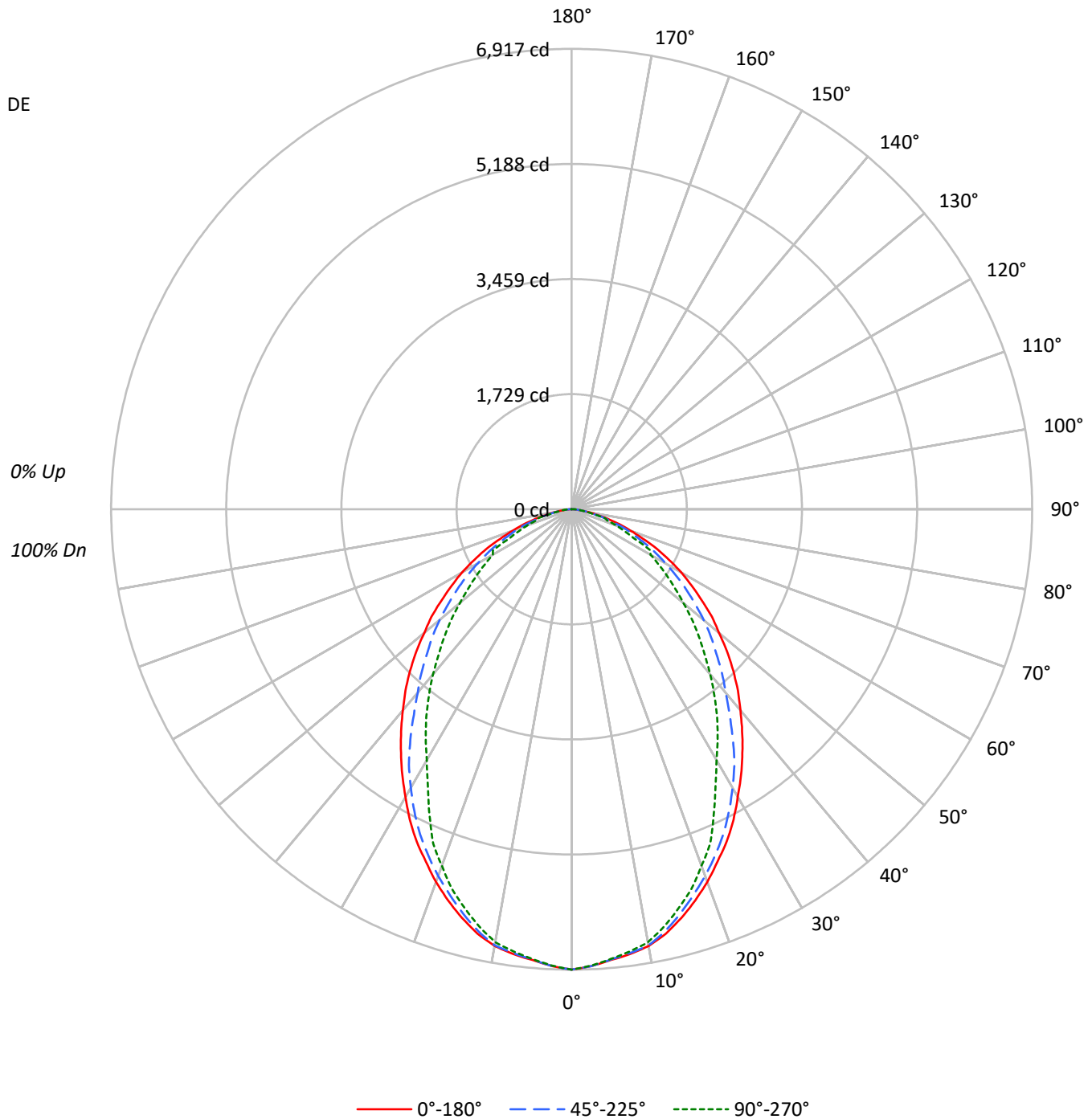
Lumens per Lamp: N/A  
Luminaire Lumens: 13579.0 lumens  
Efficiency: N/A  
Efficacy: 104.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	9307	9307	9307
5°	9180	9169	9159
10°	9101	9090	9024
15°	8855	8766	8644
20°	8530	8393	8164
25°	8179	8001	7503
30°	7752	7504	6758
35°	7342	6935	6252
40°	6924	6320	5688
45°	6528	5843	5143
50°	6042	5423	4586
55°	5590	4915	4108
60°	5121	4390	3680
65°	4506	3844	3259
70°	3712	3366	2768
75°	2952	2577	2702
80°	1983	1859	1735
85°	1235	1482	1729

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6528 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	643.9	4.7
10°-20°	1767.1	13.0
20°-30°	2446.4	18.0
30°-40°	2608.6	19.2
40°-50°	2379.8	17.5
50°-60°	1864.4	13.7
60°-70°	1215.1	8.9
70°-80°	538.3	4.0
80°-90°	115.6	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°	4857.3	35.8
0°-40°	7465.9	55.0
0°-60°	11710.0	86.2
0°-90°	13579.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13579.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6917	6917	6917	6917	6917	
5°	6797	6789	6789	6781	6781	645
15°	6357	6357	6293	6229	6205	1787
25°	5510	5478	5390	5198	5054	2529
35°	4470	4438	4222	3902	3806	2795
45°	3430	3358	3071	2815	2703	2642
55°	2383	2311	2095	1847	1751	2137
65°	1415	1335	1208	1232	1024	1395
75°	568	528	496	472	520	609
85°	80	88	96	104	112	111
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6917.0	6917.0	6917.0	6917.0	6917.0
2.5°	6869.0	6869.0	6869.0	6861.0	6861.0
5°	6797.0	6789.0	6789.0	6781.0	6781.0
7.5°	6741.0	6733.0	6725.0	6717.0	6701.1
10°	6661.1	6661.1	6653.1	6613.1	6605.1
12.5°	6533.1	6525.1	6493.1	6437.2	6421.2
15°	6357.2	6357.2	6293.2	6229.3	6205.3
17.5°	6165.3	6157.3	6077.3	6013.4	5981.4
20°	5957.4	5941.4	5861.4	5757.5	5701.5
22.5°	5725.5	5725.5	5629.5	5493.6	5437.6
25°	5509.6	5477.6	5389.6	5197.7	5053.8
27.5°	5261.7	5213.7	5117.8	4845.9	4677.9
30°	4989.8	4965.8	4829.9	4478.0	4350.1
32.5°	4733.9	4693.9	4550.0	4182.2	4078.2
35°	4470.0	4438.1	4222.1	3902.3	3806.3
37.5°	4206.2	4166.2	3894.3	3638.4	3518.5
40°	3942.3	3894.3	3598.4	3366.5	3238.6
42.5°	3694.4	3630.4	3342.5	3094.6	2950.7
45°	3430.5	3358.5	3070.7	2814.8	2702.8
47.5°	3166.6	3102.6	2838.8	2574.9	2446.9
50°	2886.7	2830.8	2590.9	2327.0	2191.0
52.5°	2654.8	2566.9	2335.0	2071.1	1959.1
55°	2383.0	2311.0	2095.1	1847.2	1751.2
57.5°	2135.1	2063.1	1863.2	1631.3	1551.3
60°	1903.2	1799.2	1631.3	1431.4	1367.4
62.5°	1647.3	1567.3	1423.4	1255.4	1335.4
65°	1415.4	1335.4	1207.5	1231.5	1023.6
67.5°	1159.5	1119.5	1007.6	895.6	863.6
70°	943.6	895.6	855.6	735.7	703.7
72.5°	751.7	703.7	647.7	583.7	559.8
75°	567.8	527.8	495.8	471.8	519.8
77.5°	391.8	375.8	351.8	327.9	319.9
80°	255.9	247.9	239.9	231.9	223.9
82.5°	151.9	151.9	151.9	151.9	151.9
85°	80.0	88.0	96.0	104.0	112.0
87.5°	48.0	48.0	56.0	64.0	72.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)