

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: P562119

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-81-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562119  
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-LD4-1HI-50-UNV-81-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

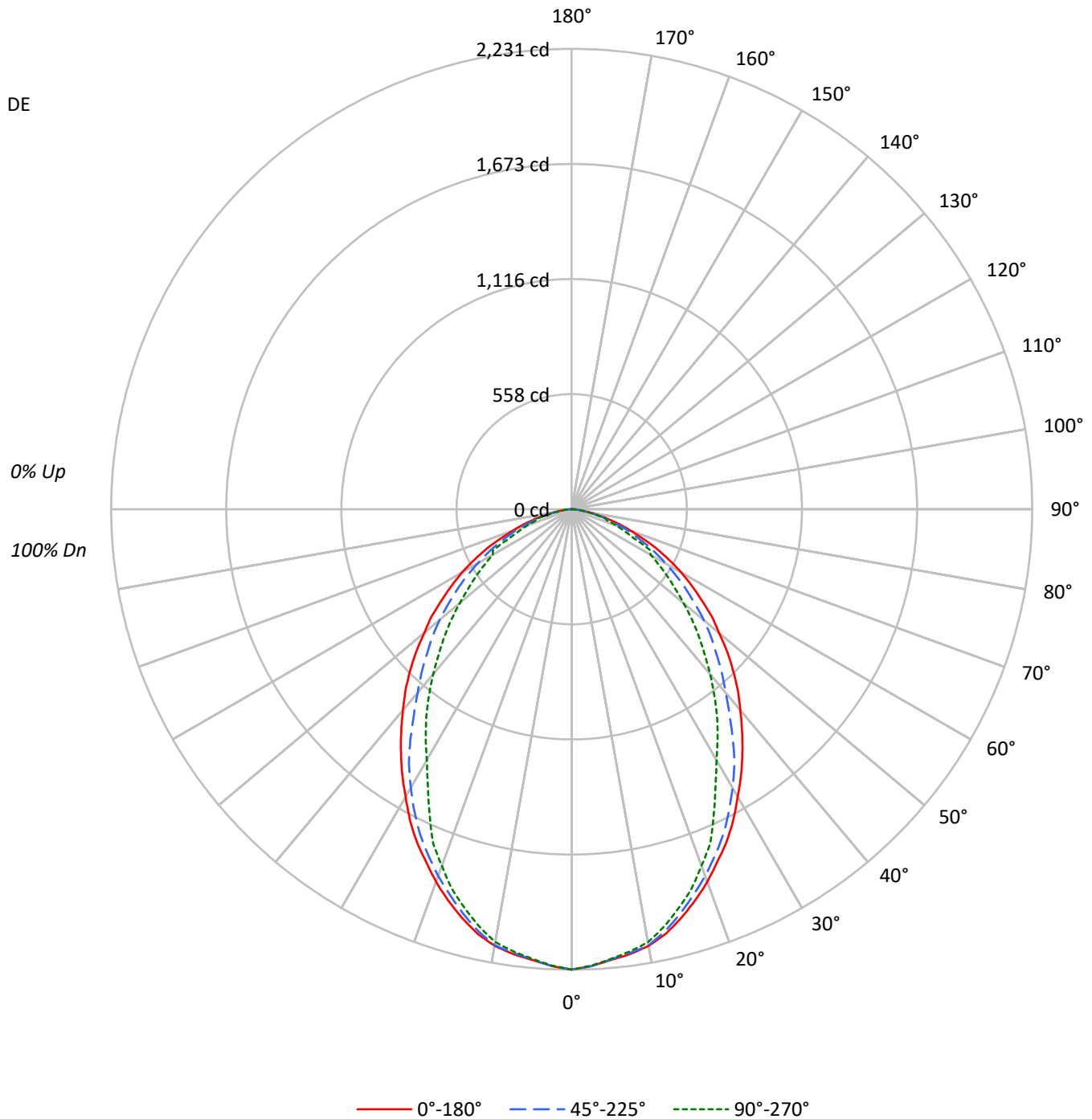
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4379.0 lumens  
Efficiency: N/A  
Efficacy: 101.4 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): 43.2  
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°	3001	3001	3001
5°	2960	2957	2954
10°	2935	2931	2910
15°	2856	2827	2787
20°	2751	2706	2633
25°	2638	2580	2420
30°	2500	2420	2179
35°	2368	2236	2016
40°	2233	2038	1834
45°	2105	1884	1658
50°	1949	1749	1479
55°	1803	1585	1325
60°	1651	1416	1187
65°	1453	1240	1051
70°	1197	1085	893
75°	952	831	871
80°	639	600	559
85°	398	477	557

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2105 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.6	4.7
10°-20°	569.8	13.0
20°-30°	788.9	18.0
30°-40°	841.2	19.2
40°-50°	767.4	17.5
50°-60°	601.2	13.7
60°-70°	391.8	8.9
70°-80°	173.6	4.0
80°-90°	37.3	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°	1566.4	35.8
0°-40°	2407.6	55.0
0°-60°	3776.3	86.2
0°-90°	4379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4379.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2231	2231	2231	2231	2231	
5°	2192	2189	2189	2187	2187	208
15°	2050	2050	2030	2009	2001	576
25°	1777	1766	1738	1676	1630	816
35°	1442	1431	1362	1258	1228	901
45°	1106	1083	990	908	872	852
55°	768	745	676	596	565	689
65°	456	431	389	397	330	450
75°	183	170	160	152	168	196
85°	26	28	31	34	36	36
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2230.6	2230.6	2230.6	2230.6	2230.6
2.5°	2215.1	2215.1	2215.1	2212.6	2212.6
5°	2191.9	2189.3	2189.3	2186.8	2186.8
7.5°	2173.9	2171.3	2168.7	2166.1	2161.0
10°	2148.1	2148.1	2145.5	2132.6	2130.0
12.5°	2106.8	2104.2	2093.9	2075.9	2070.7
15°	2050.1	2050.1	2029.5	2008.8	2001.1
17.5°	1988.2	1985.6	1959.8	1939.2	1928.9
20°	1921.2	1916.0	1890.2	1856.7	1838.6
22.5°	1846.4	1846.4	1815.4	1771.6	1753.5
25°	1776.7	1766.4	1738.1	1676.2	1629.8
27.5°	1696.8	1681.3	1650.4	1562.7	1508.6
30°	1609.1	1601.4	1557.6	1444.1	1402.8
32.5°	1526.6	1513.7	1467.3	1348.7	1315.2
35°	1441.5	1431.2	1361.6	1258.4	1227.5
37.5°	1356.4	1343.5	1255.8	1173.3	1134.6
40°	1271.3	1255.8	1160.4	1085.6	1044.4
42.5°	1191.4	1170.7	1077.9	998.0	951.6
45°	1106.3	1083.1	990.2	907.7	871.6
47.5°	1021.2	1000.5	915.5	830.4	789.1
50°	930.9	912.9	835.5	750.4	706.6
52.5°	856.1	827.8	753.0	667.9	631.8
55°	768.5	745.3	675.6	595.7	564.7
57.5°	688.5	665.3	600.8	526.1	500.3
60°	613.7	580.2	526.1	461.6	441.0
62.5°	531.2	505.4	459.0	404.9	430.6
65°	456.4	430.6	389.4	397.1	330.1
67.5°	373.9	361.0	324.9	288.8	278.5
70°	304.3	288.8	275.9	237.2	226.9
72.5°	242.4	226.9	208.9	188.2	180.5
75°	183.1	170.2	159.9	152.1	167.6
77.5°	126.4	121.2	113.5	105.7	103.1
80°	82.5	79.9	77.4	74.8	72.2
82.5°	49.0	49.0	49.0	49.0	49.0
85°	25.8	28.4	30.9	33.5	36.1
87.5°	15.5	15.5	18.1	20.6	23.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)