

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: P590702

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-93-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590702  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-3STD-50-UNV-93-85-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

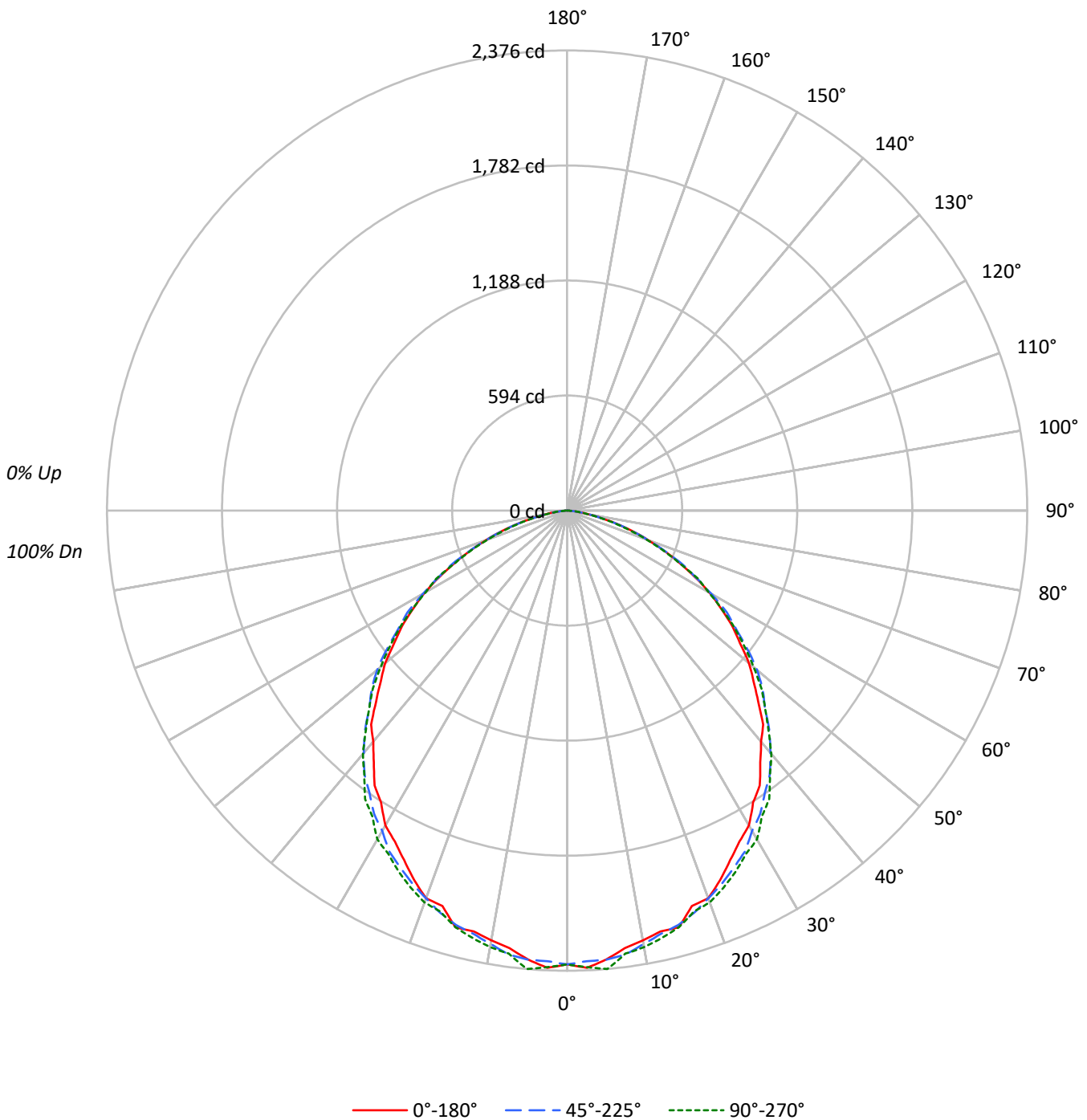
Lumens per Lamp: N/A  
Luminaire Lumens: 5905.0 lumens  
Efficiency: N/A  
Efficacy: 118.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6305	6305	6305
5°	6284	6286	6419
10°	6157	6210	6254
15°	6205	6172	6206
20°	6100	6100	6166
25°	5913	6042	6109
30°	5832	5934	6092
35°	5694	5843	5975
40°	5473	5736	5762
45°	5307	5496	5504
50°	5133	5364	5262
55°	4891	4986	4951
60°	4574	4619	4536
65°	4078	4182	4049
70°	3499	3511	3413
75°	2771	2765	2658
80°	1857	1805	1734
85°	1010	1000	936

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5638 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.4	3.7
10°-20°	624.6	10.6
20°-30°	935.8	15.8
30°-40°	1109.1	18.8
40°-50°	1111.2	18.8
50°-60°	943.2	16.0
60°-70°	635.9	10.8
70°-80°	279.4	4.7
80°-90°	45.4	0.8
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°	1780.8	30.2
0°-40°	2889.9	48.9
0°-60°	4944.3	83.7
0°-90°	5905.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5905.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2343	2343	2343	2343	2343	
5°	2326	2321	2327	2320	2376	219
15°	2227	2202	2215	2227	2228	621
25°	1991	2002	2035	2062	2057	921
35°	1733	1738	1779	1820	1819	1076
45°	1395	1421	1444	1481	1446	1079
55°	1042	1036	1063	1056	1055	927
65°	640	632	657	632	636	637
75°	266	261	266	247	256	286
85°	33	32	32	32	30	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2343.0	2343.0	2343.0	2343.0	2343.0
2.5°	2363.2	2345.4	2328.7	2348.1	2359.9
5°	2326.3	2320.9	2327.2	2320.3	2376.2
7.5°	2278.5	2299.4	2311.5	2303.9	2307.3
10°	2253.1	2245.8	2272.8	2291.5	2288.8
12.5°	2225.9	2236.8	2238.3	2258.6	2260.4
15°	2227.4	2201.7	2215.3	2226.8	2227.7
17.5°	2140.9	2168.7	2178.1	2204.4	2171.7
20°	2130.3	2110.0	2130.3	2157.2	2153.0
22.5°	2065.2	2042.6	2086.1	2110.0	2108.5
25°	1991.4	2002.3	2035.0	2061.6	2057.4
27.5°	1926.7	1939.4	1986.0	2022.6	1999.0
30°	1876.8	1870.4	1909.8	1942.4	1960.6
32.5°	1787.5	1810.5	1856.5	1888.9	1871.6
35°	1733.4	1738.5	1778.8	1819.9	1818.7
37.5°	1638.7	1662.6	1719.2	1730.7	1720.1
40°	1557.9	1581.8	1633.0	1645.4	1640.2
42.5°	1498.3	1502.6	1546.4	1560.7	1538.0
45°	1394.6	1420.6	1444.2	1481.4	1446.3
47.5°	1306.2	1318.3	1369.2	1379.2	1360.7
50°	1226.1	1230.3	1281.4	1269.0	1256.9
52.5°	1125.3	1143.2	1171.9	1169.5	1155.3
55°	1042.5	1035.5	1062.7	1055.5	1055.2
57.5°	942.9	955.0	977.4	965.9	947.5
60°	849.8	850.1	858.2	845.2	842.8
62.5°	746.0	749.6	751.4	735.4	761.4
65°	640.4	631.9	656.8	631.6	635.9
67.5°	543.3	547.5	545.1	529.4	535.4
70°	444.7	450.1	446.2	428.4	433.8
72.5°	354.5	347.9	352.1	329.7	340.0
75°	266.5	261.1	265.9	247.2	255.6
77.5°	181.5	185.7	182.7	172.7	178.5
80°	119.8	116.5	116.5	110.7	111.9
82.5°	69.9	66.6	65.6	63.8	66.6
85°	32.7	31.8	32.4	31.5	30.3
87.5°	11.8	12.1	12.1	11.5	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)