

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: P562764

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562764  
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-LD4-2LO-40-UNV-81-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

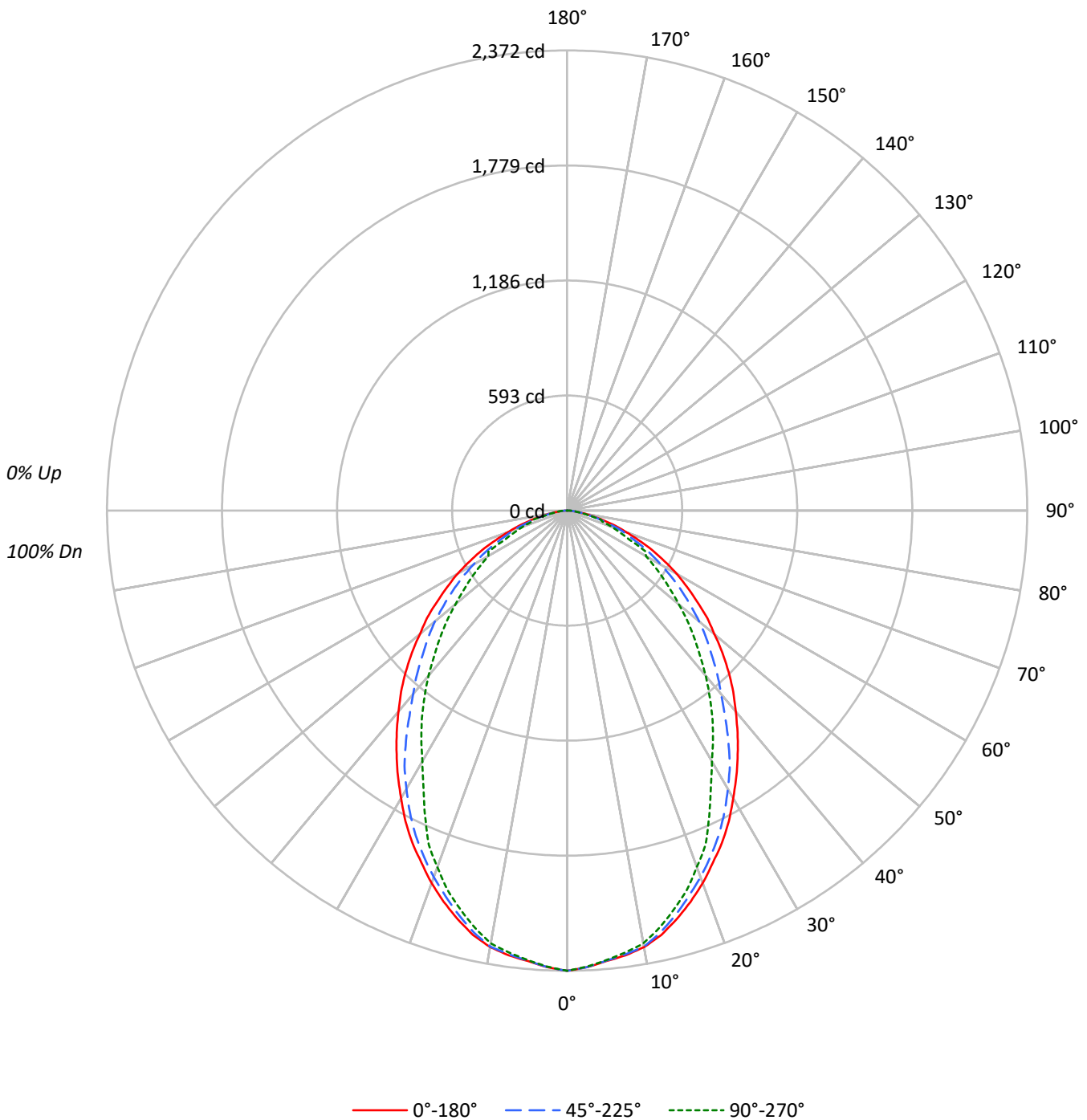
Lumens per Lamp: N/A  
Luminaire Lumens: 4657.0 lumens  
Efficiency: N/A  
Efficacy: 99.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3192	3192	3192
5°	3148	3145	3141
10°	3121	3117	3095
15°	3037	3006	2964
20°	2925	2878	2800
25°	2805	2744	2573
30°	2659	2573	2318
35°	2518	2378	2144
40°	2375	2168	1951
45°	2239	2004	1764
50°	2072	1860	1573
55°	1917	1685	1409
60°	1756	1506	1262
65°	1545	1318	1117
70°	1273	1154	949
75°	1012	884	927
80°	680	638	595
85°	423	508	593

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2239 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	220.8	4.7
10°-20°	606.0	13.0
20°-30°	839.0	18.0
30°-40°	894.6	19.2
40°-50°	816.2	17.5
50°-60°	639.4	13.7
60°-70°	416.7	8.9
70°-80°	184.6	4.0
80°-90°	39.6	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°	1665.9	35.8
0°-40°	2560.5	55.0
0°-60°	4016.0	86.2
0°-90°	4657.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4657.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2372	2372	2372	2372	2372	
5°	2331	2328	2328	2326	2326	221
15°	2180	2180	2158	2136	2128	613
25°	1890	1879	1848	1783	1733	867
35°	1533	1522	1448	1338	1305	958
45°	1176	1152	1053	965	927	906
55°	817	793	718	634	601	733
65°	485	458	414	422	351	478
75°	195	181	170	162	178	209
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2372.2	2372.2	2372.2	2372.2	2372.2
2.5°	2355.8	2355.8	2355.8	2353.0	2353.0
5°	2331.1	2328.3	2328.3	2325.6	2325.6
7.5°	2311.9	2309.1	2306.4	2303.7	2298.2
10°	2284.5	2284.5	2281.7	2268.0	2265.3
12.5°	2240.6	2237.8	2226.9	2207.7	2202.2
15°	2180.2	2180.2	2158.3	2136.4	2128.1
17.5°	2114.4	2111.7	2084.3	2062.3	2051.3
20°	2043.1	2037.6	2010.2	1974.6	1955.4
22.5°	1963.6	1963.6	1930.7	1884.1	1864.9
25°	1889.5	1878.6	1848.4	1782.6	1733.2
27.5°	1804.5	1788.1	1755.2	1661.9	1604.3
30°	1711.3	1703.1	1656.4	1535.8	1491.9
32.5°	1623.5	1609.8	1560.5	1434.3	1398.6
35°	1533.0	1522.1	1448.0	1338.3	1305.4
37.5°	1442.5	1428.8	1335.6	1247.8	1206.7
40°	1352.0	1335.6	1234.1	1154.6	1110.7
42.5°	1267.0	1245.1	1146.3	1061.3	1012.0
45°	1176.5	1151.8	1053.1	965.3	926.9
47.5°	1086.0	1064.1	973.6	883.1	839.2
50°	990.0	970.8	888.6	798.1	751.4
52.5°	910.5	880.3	800.8	710.3	671.9
55°	817.2	792.6	718.5	633.5	600.6
57.5°	732.2	707.6	639.0	559.5	532.0
60°	652.7	617.0	559.5	490.9	469.0
62.5°	564.9	537.5	488.2	430.6	458.0
65°	485.4	458.0	414.1	422.3	351.0
67.5°	397.7	383.9	345.5	307.2	296.2
70°	323.6	307.2	293.4	252.3	241.3
72.5°	257.8	241.3	222.1	200.2	192.0
75°	194.7	181.0	170.0	161.8	178.3
77.5°	134.4	128.9	120.7	112.4	109.7
80°	87.8	85.0	82.3	79.5	76.8
82.5°	52.1	52.1	52.1	52.1	52.1
85°	27.4	30.2	32.9	35.7	38.4
87.5°	16.5	16.5	19.2	21.9	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)