

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: P561977

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561977  
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-35-UNV-80-88-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

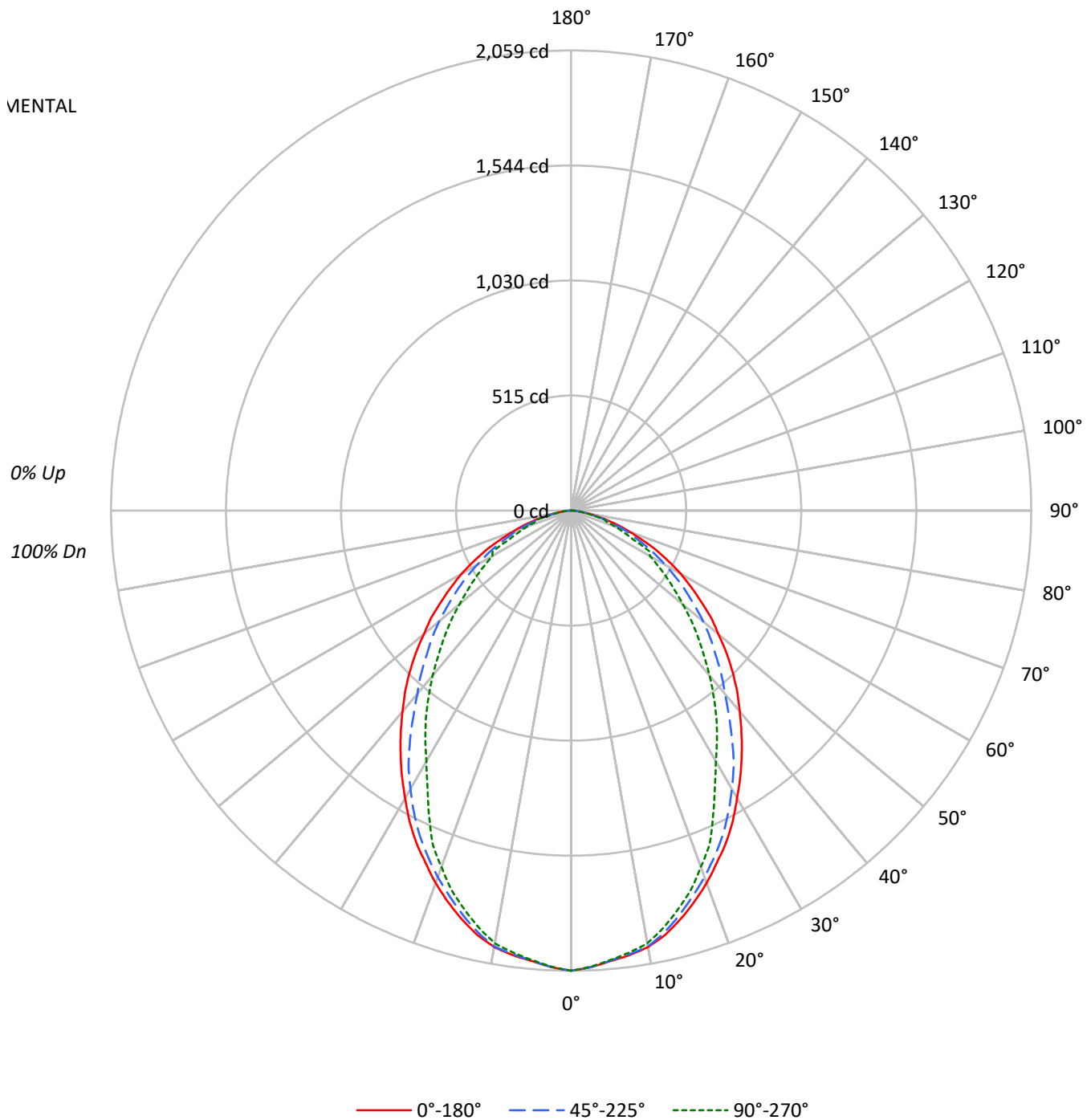
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4042.0 lumens  
Efficiency: N/A  
Efficacy: 93.6 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): 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°	2770	2770	2770
5°	2733	2729	2726
10°	2709	2706	2686
15°	2636	2609	2573
20°	2539	2498	2430
25°	2435	2382	2233
30°	2308	2234	2012
35°	2186	2064	1861
40°	2061	1881	1693
45°	1943	1739	1531
50°	1799	1614	1365
55°	1664	1463	1223
60°	1524	1307	1095
65°	1341	1144	970
70°	1105	1002	824
75°	879	767	804
80°	590	553	516
85°	367	442	514

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1943 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	191.7	4.7
10°-20°	526.0	13.0
20°-30°	728.2	18.0
30°-40°	776.5	19.2
40°-50°	708.4	17.5
50°-60°	555.0	13.7
60°-70°	361.7	8.9
70°-80°	160.2	4.0
80°-90°	34.4	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°	1445.9	35.8
0°-40°	2222.3	55.0
0°-60°	3485.7	86.2
0°-90°	4042.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4042.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2059	2059	2059	2059	2059	
5°	2023	2021	2021	2018	2018	192
15°	1892	1892	1873	1854	1847	532
25°	1640	1630	1604	1547	1504	753
35°	1331	1321	1257	1162	1133	832
45°	1021	1000	914	838	804	787
55°	709	688	624	550	521	636
65°	421	398	359	367	305	415
75°	169	157	148	140	155	181
85°	24	26	29	31	33	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2058.9	2058.9	2058.9	2058.9	2058.9
2.5°	2044.7	2044.7	2044.7	2042.3	2042.3
5°	2023.2	2020.9	2020.9	2018.5	2018.5
7.5°	2006.6	2004.2	2001.8	1999.4	1994.7
10°	1982.8	1982.8	1980.4	1968.5	1966.1
12.5°	1944.7	1942.3	1932.8	1916.1	1911.4
15°	1892.3	1892.3	1873.3	1854.2	1847.1
17.5°	1835.2	1832.8	1809.0	1790.0	1780.4
20°	1773.3	1768.5	1744.7	1713.8	1697.1
22.5°	1704.3	1704.3	1675.7	1635.3	1618.6
25°	1640.0	1630.5	1604.3	1547.2	1504.3
27.5°	1566.2	1551.9	1523.4	1442.4	1392.5
30°	1485.3	1478.2	1437.7	1333.0	1294.9
32.5°	1409.1	1397.2	1354.4	1244.9	1213.9
35°	1330.6	1321.1	1256.8	1161.6	1133.0
37.5°	1252.0	1240.1	1159.2	1083.0	1047.3
40°	1173.5	1159.2	1071.1	1002.1	964.0
42.5°	1099.7	1080.6	995.0	921.2	878.3
45°	1021.1	999.7	914.0	837.9	804.5
47.5°	942.6	923.5	845.0	766.4	728.4
50°	859.3	842.6	771.2	692.7	652.2
52.5°	790.3	764.1	695.0	616.5	583.2
55°	709.3	687.9	623.6	549.8	521.3
57.5°	635.5	614.1	554.6	485.6	461.8
60°	566.5	535.6	485.6	426.1	407.0
62.5°	490.3	466.5	423.7	373.7	397.5
65°	421.3	397.5	359.4	366.6	304.7
67.5°	345.1	333.2	299.9	266.6	257.1
70°	280.9	266.6	254.7	219.0	209.5
72.5°	223.7	209.5	192.8	173.8	166.6
75°	169.0	157.1	147.6	140.4	154.7
77.5°	116.6	111.9	104.7	97.6	95.2
80°	76.2	73.8	71.4	69.0	66.6
82.5°	45.2	45.2	45.2	45.2	45.2
85°	23.8	26.2	28.6	30.9	33.3
87.5°	14.3	14.3	16.7	19.0	21.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)