

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: P562293

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562293  
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-LD4-1STD-35-UNV-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

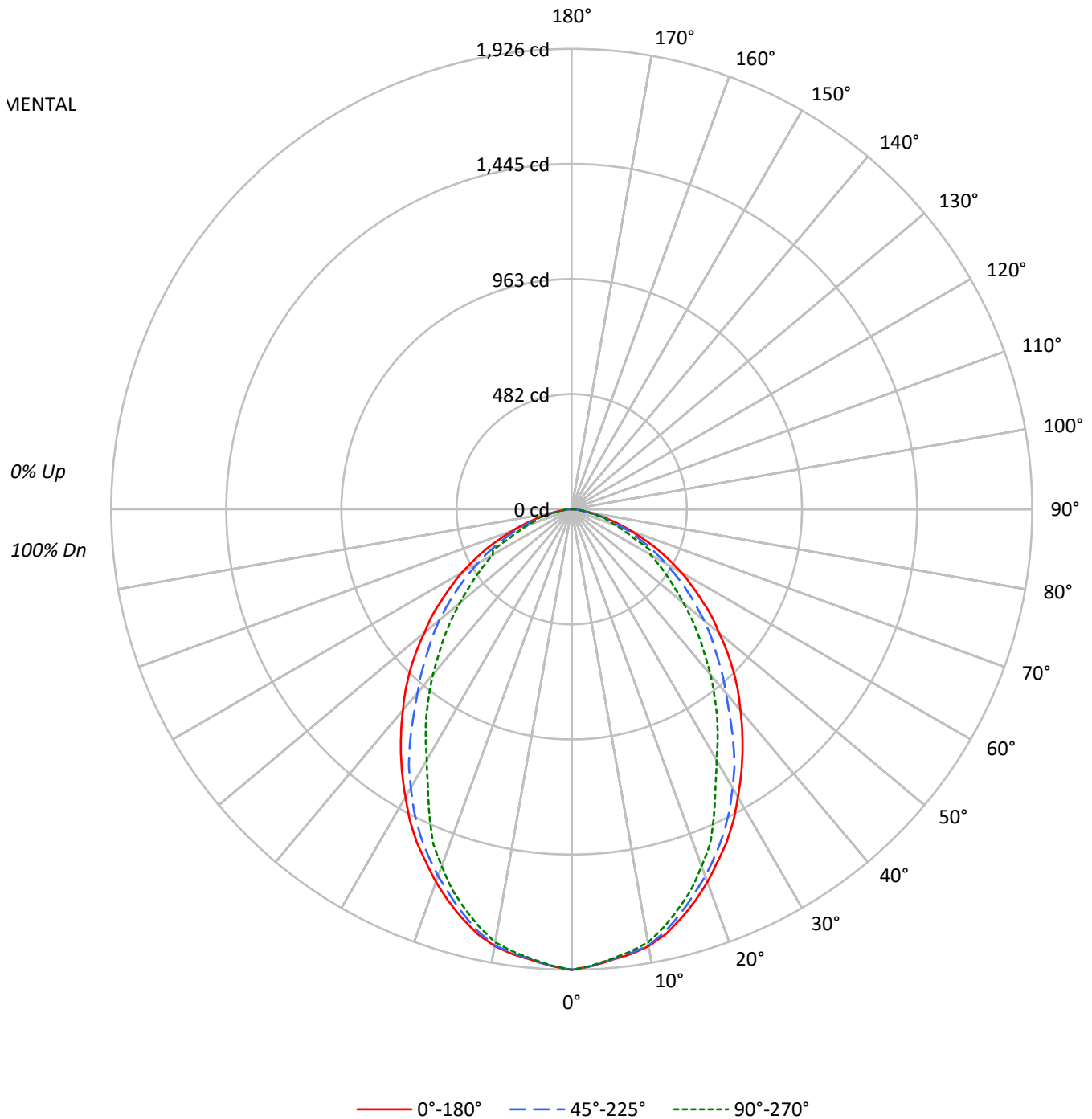
Lumens per Lamp: N/A  
Luminaire Lumens: 3782.0 lumens  
Efficiency: N/A  
Efficacy: 113.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2592	2592	2592
5°	2557	2554	2551
10°	2535	2532	2513
15°	2466	2442	2407
20°	2376	2337	2274
25°	2278	2229	2090
30°	2159	2090	1882
35°	2045	1931	1741
40°	1929	1760	1584
45°	1818	1627	1432
50°	1683	1510	1277
55°	1557	1369	1144
60°	1426	1223	1025
65°	1255	1071	908
70°	1034	937	771
75°	822	718	753
80°	552	518	483
85°	344	412	482

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1818 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	179.3	4.7
10°-20°	492.2	13.0
20°-30°	681.4	18.0
30°-40°	726.5	19.2
40°-50°	662.8	17.5
50°-60°	519.2	13.7
60°-70°	338.4	8.9
70°-80°	149.9	4.0
80°-90°	32.2	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°	1352.9	35.8
0°-40°	2079.4	55.0
0°-60°	3261.4	86.2
0°-90°	3782.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3782.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1926	1926	1926	1926	1926	
5°	1893	1891	1891	1889	1889	180
15°	1771	1771	1753	1735	1728	498
25°	1534	1526	1501	1448	1408	705
35°	1245	1236	1176	1087	1060	778
45°	956	935	855	784	753	736
55°	664	644	584	514	488	595
65°	394	372	336	343	285	388
75°	158	147	138	131	145	169
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1926.5	1926.5	1926.5	1926.5	1926.5
2.5°	1913.1	1913.1	1913.1	1910.9	1910.9
5°	1893.1	1890.9	1890.9	1888.6	1888.6
7.5°	1877.5	1875.3	1873.0	1870.8	1866.4
10°	1855.2	1855.2	1853.0	1841.9	1839.6
12.5°	1819.6	1817.4	1808.5	1792.9	1788.4
15°	1770.6	1770.6	1752.8	1735.0	1728.3
17.5°	1717.1	1714.9	1692.6	1674.8	1665.9
20°	1659.2	1654.8	1632.5	1603.6	1588.0
22.5°	1594.7	1594.7	1567.9	1530.1	1514.5
25°	1534.5	1525.6	1501.1	1447.7	1407.6
27.5°	1465.5	1452.1	1425.4	1349.7	1302.9
30°	1389.8	1383.1	1345.2	1247.2	1211.6
32.5°	1318.5	1307.3	1267.3	1164.8	1135.9
35°	1245.0	1236.1	1175.9	1086.9	1060.1
37.5°	1171.5	1160.4	1084.6	1013.4	980.0
40°	1098.0	1084.6	1002.2	937.6	902.0
42.5°	1029.0	1011.1	931.0	861.9	821.8
45°	955.5	935.4	855.2	784.0	752.8
47.5°	882.0	864.1	790.6	717.1	681.5
50°	804.0	788.4	721.6	648.1	610.2
52.5°	739.4	714.9	650.3	576.8	545.7
55°	663.7	643.7	583.5	514.5	487.7
57.5°	594.7	574.6	518.9	454.3	432.1
60°	530.1	501.1	454.3	398.7	380.8
62.5°	458.8	436.5	396.4	349.7	371.9
65°	394.2	371.9	336.3	343.0	285.1
67.5°	322.9	311.8	280.6	249.4	240.5
70°	262.8	249.4	238.3	204.9	196.0
72.5°	209.4	196.0	180.4	162.6	155.9
75°	158.1	147.0	138.1	131.4	144.8
77.5°	109.1	104.7	98.0	91.3	89.1
80°	71.3	69.0	66.8	64.6	62.4
82.5°	42.3	42.3	42.3	42.3	42.3
85°	22.3	24.5	26.7	29.0	31.2
87.5°	13.4	13.4	15.6	17.8	20.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)