

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: P562400

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562400  
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-40-UNV-93-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

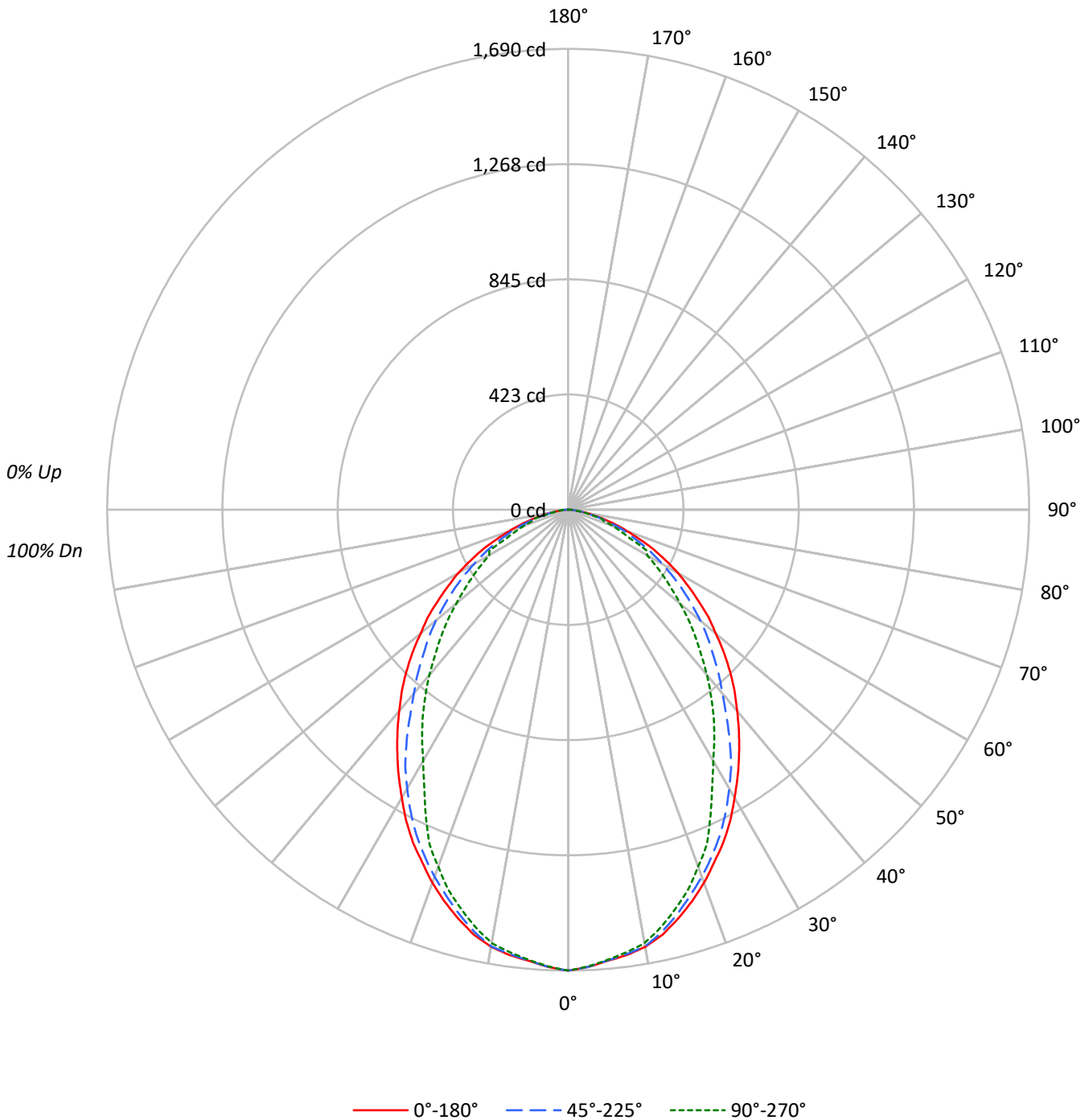
Lumens per Lamp: N/A  
Luminaire Lumens: 3318.0 lumens  
Efficiency: N/A  
Efficacy: 99.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2274	2274	2274
5°	2243	2241	2238
10°	2224	2221	2205
15°	2164	2142	2112
20°	2084	2051	1995
25°	1999	1955	1833
30°	1894	1834	1651
35°	1794	1695	1528
40°	1692	1544	1390
45°	1595	1428	1257
50°	1477	1325	1121
55°	1366	1201	1004
60°	1251	1073	899
65°	1101	939	796
70°	907	823	676
75°	721	630	660
80°	484	454	424
85°	301	361	423

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1595 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.3	4.7
10°-20°	431.8	13.0
20°-30°	597.8	18.0
30°-40°	637.4	19.2
40°-50°	581.5	17.5
50°-60°	455.6	13.7
60°-70°	296.9	8.9
70°-80°	131.5	4.0
80°-90°	28.2	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°	1186.9	35.8
0°-40°	1824.3	55.0
0°-60°	2861.3	86.2
0°-90°	3318.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3318.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1690	1690	1690	1690	1690	
5°	1661	1659	1659	1657	1657	158
15°	1553	1553	1538	1522	1516	437
25°	1346	1338	1317	1270	1235	618
35°	1092	1084	1032	954	930	683
45°	838	821	750	688	660	646
55°	582	565	512	451	428	522
65°	346	326	295	301	250	341
75°	139	129	121	115	127	149
85°	20	22	23	25	27	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1690.1	1690.1	1690.1	1690.1	1690.1
2.5°	1678.4	1678.4	1678.4	1676.5	1676.5
5°	1660.8	1658.9	1658.9	1656.9	1656.9
7.5°	1647.2	1645.2	1643.3	1641.3	1637.4
10°	1627.6	1627.6	1625.7	1615.9	1613.9
12.5°	1596.4	1594.4	1586.6	1572.9	1569.0
15°	1553.4	1553.4	1537.7	1522.1	1516.2
17.5°	1506.5	1504.5	1485.0	1469.4	1461.5
20°	1455.7	1451.8	1432.2	1406.8	1393.1
22.5°	1399.0	1399.0	1375.6	1342.3	1328.7
25°	1346.3	1338.4	1316.9	1270.1	1234.9
27.5°	1285.7	1274.0	1250.5	1184.1	1143.0
30°	1219.2	1213.4	1180.2	1094.2	1062.9
32.5°	1156.7	1147.0	1111.8	1021.9	996.5
35°	1092.2	1084.4	1031.7	953.5	930.1
37.5°	1027.8	1018.0	951.6	889.0	859.7
40°	963.3	951.6	879.3	822.6	791.3
42.5°	902.7	887.1	816.7	756.2	721.0
45°	838.2	820.6	750.3	687.8	660.4
47.5°	773.8	758.1	693.6	629.2	597.9
50°	705.4	691.7	633.1	568.6	535.4
52.5°	648.7	627.2	570.5	506.1	478.7
55°	582.3	564.7	511.9	451.4	427.9
57.5°	521.7	504.1	455.3	398.6	379.1
60°	465.0	439.6	398.6	349.8	334.1
62.5°	402.5	383.0	347.8	306.8	326.3
65°	345.8	326.3	295.0	300.9	250.1
67.5°	283.3	273.5	246.2	218.8	211.0
70°	230.6	218.8	209.1	179.8	171.9
72.5°	183.7	171.9	158.3	142.6	136.8
75°	138.7	129.0	121.1	115.3	127.0
77.5°	95.7	91.8	86.0	80.1	78.2
80°	62.5	60.6	58.6	56.7	54.7
82.5°	37.1	37.1	37.1	37.1	37.1
85°	19.5	21.5	23.4	25.4	27.4
87.5°	11.7	11.7	13.7	15.6	17.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)