

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: P590331

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590331  
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-LD4-2STD-35-UNV-80-96-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

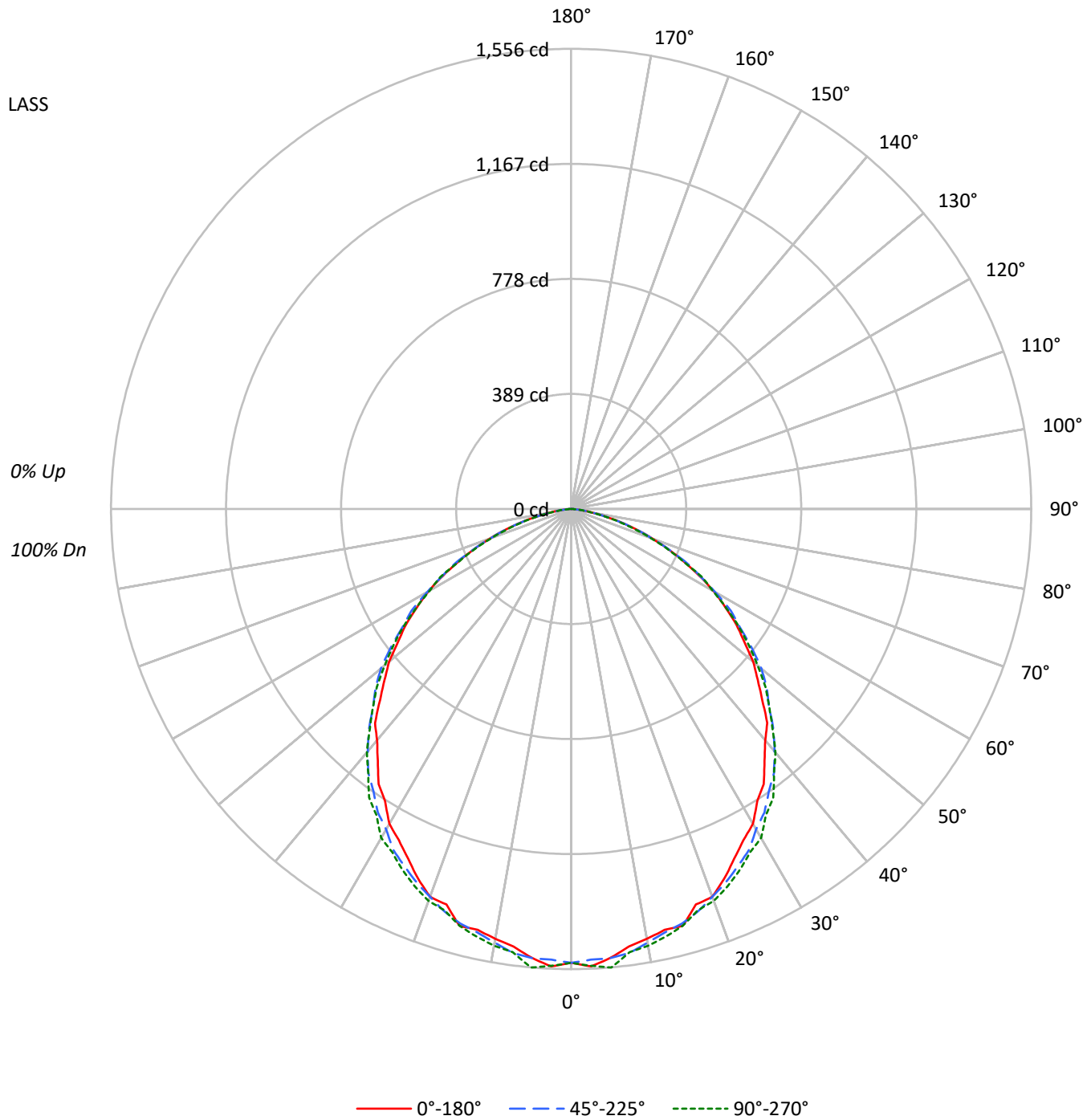
Lumens per Lamp: N/A  
Luminaire Lumens: 3868.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	4130	4130	4130
5°	4116	4118	4205
10°	4033	4068	4097
15°	4065	4043	4065
20°	3996	3996	4039
25°	3873	3958	4002
30°	3820	3887	3991
35°	3730	3828	3914
40°	3585	3758	3774
45°	3476	3600	3605
50°	3362	3514	3447
55°	3203	3266	3243
60°	2996	3026	2971
65°	2671	2739	2652
70°	2292	2300	2236
75°	1815	1811	1740
80°	1216	1182	1136
85°	661	655	611

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3693 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.4	3.7
10°-20°	409.1	10.6
20°-30°	613.0	15.8
30°-40°	726.5	18.8
40°-50°	727.9	18.8
50°-60°	617.8	16.0
60°-70°	416.5	10.8
70°-80°	183.0	4.7
80°-90°	29.7	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°	1166.5	30.2
0°-40°	1893.0	48.9
0°-60°	3238.7	83.7
0°-90°	3868.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3868.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1535	1535	1535	1535	1535	
5°	1524	1520	1524	1520	1556	144
15°	1459	1442	1451	1459	1459	407
25°	1304	1312	1333	1350	1348	603
35°	1135	1139	1165	1192	1191	705
45°	914	930	946	970	947	707
55°	683	678	696	691	691	607
65°	420	414	430	414	416	417
75°	175	171	174	162	167	187
85°	21	21	21	21	20	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1534.7	1534.7	1534.7	1534.7	1534.7
2.5°	1548.0	1536.3	1525.4	1538.1	1545.8
5°	1523.8	1520.3	1524.4	1519.9	1556.5
7.5°	1492.5	1506.2	1514.1	1509.2	1511.3
10°	1475.9	1471.1	1488.8	1501.0	1499.3
12.5°	1458.0	1465.2	1466.2	1479.4	1480.6
15°	1459.0	1442.2	1451.1	1458.6	1459.2
17.5°	1402.4	1420.6	1426.7	1444.0	1422.6
20°	1395.4	1382.1	1395.4	1413.1	1410.3
22.5°	1352.8	1338.0	1366.5	1382.1	1381.2
25°	1304.5	1311.6	1333.0	1350.4	1347.7
27.5°	1262.1	1270.4	1300.9	1324.9	1309.4
30°	1229.4	1225.2	1251.0	1272.4	1284.3
32.5°	1170.9	1186.0	1216.1	1237.3	1226.0
35°	1135.4	1138.8	1165.2	1192.1	1191.3
37.5°	1073.4	1089.1	1126.1	1133.7	1126.7
40°	1020.5	1036.2	1069.7	1077.8	1074.4
42.5°	981.5	984.2	1013.0	1022.3	1007.4
45°	913.5	930.5	946.0	970.4	947.4
47.5°	855.6	863.6	896.9	903.4	891.3
50°	803.1	805.9	839.4	831.3	823.3
52.5°	737.1	748.8	767.7	766.1	756.8
55°	682.8	678.3	696.1	691.4	691.2
57.5°	617.7	625.6	640.2	632.7	620.6
60°	556.6	556.8	562.2	553.7	552.1
62.5°	488.7	491.0	492.2	481.7	498.8
65°	419.5	413.9	430.2	413.8	416.5
67.5°	355.9	358.7	357.1	346.8	350.7
70°	291.3	294.9	292.3	280.6	284.2
72.5°	232.2	227.9	230.7	216.0	222.7
75°	174.6	171.0	174.2	161.9	167.4
77.5°	118.9	121.7	119.7	113.1	116.9
80°	78.5	76.3	76.3	72.5	73.3
82.5°	45.8	43.6	43.0	41.8	43.6
85°	21.4	20.8	21.2	20.6	19.8
87.5°	7.7	7.9	7.9	7.5	7.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)