

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: P590391

Luminaire Tested: FSR-24-2-LD4-2STD-50-UNV-80-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590391  
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-50-UNV-80-86-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

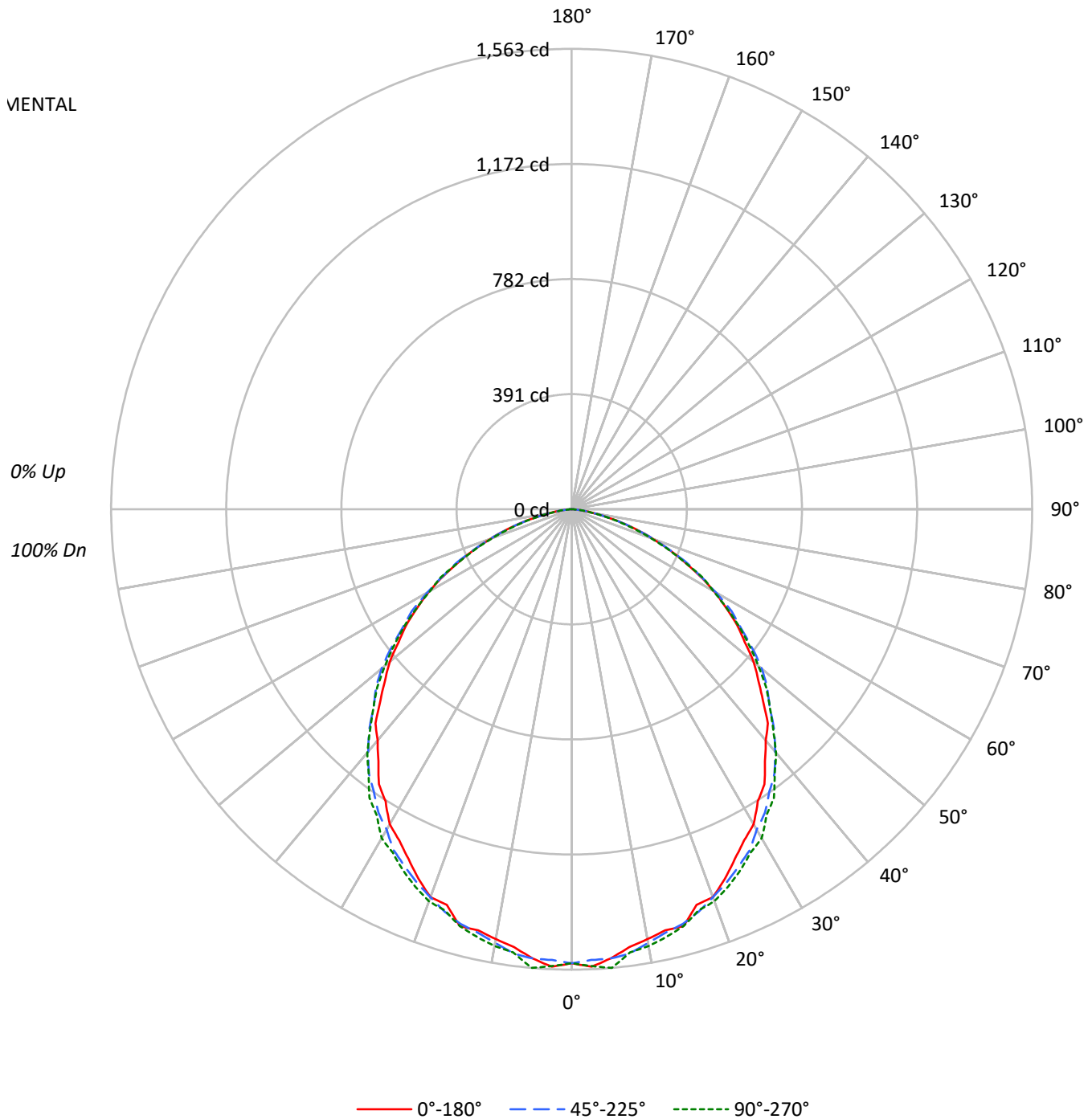
Lumens per Lamp: N/A  
Luminaire Lumens: 3884.0 lumens  
Efficiency: N/A  
Efficacy: 116.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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	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					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4147	4147	4147
5°	4133	4135	4222
10°	4050	4085	4114
15°	4082	4059	4082
20°	4013	4013	4055
25°	3889	3974	4018
30°	3836	3903	4007
35°	3745	3844	3930
40°	3600	3773	3790
45°	3491	3615	3620
50°	3376	3529	3461
55°	3217	3279	3256
60°	3008	3038	2983
65°	2682	2751	2663
70°	2301	2309	2245
75°	1823	1818	1748
80°	1221	1187	1141
85°	664	658	614

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3708 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.0	3.7
10°-20°	410.8	10.6
20°-30°	615.5	15.8
30°-40°	729.5	18.8
40°-50°	730.9	18.8
50°-60°	620.4	16.0
60°-70°	418.3	10.8
70°-80°	183.8	4.7
80°-90°	29.9	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°	1171.3	30.2
0°-40°	1900.8	48.9
0°-60°	3252.1	83.7
0°-90°	3884.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3884.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1541	1541	1541	1541	1541	
5°	1530	1526	1531	1526	1563	144
15°	1465	1448	1457	1465	1465	408
25°	1310	1317	1338	1356	1353	606
35°	1140	1144	1170	1197	1196	708
45°	917	934	950	974	951	710
55°	686	681	699	694	694	610
65°	421	416	432	416	418	419
75°	175	172	175	163	168	188
85°	22	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°	1541.1	1541.1	1541.1	1541.1	1541.1
2.5°	1554.4	1542.7	1531.7	1544.5	1552.2
5°	1530.1	1526.5	1530.7	1526.1	1563.0
7.5°	1498.7	1512.4	1520.4	1515.4	1517.6
10°	1482.0	1477.2	1494.9	1507.2	1505.5
12.5°	1464.1	1471.2	1472.2	1485.6	1486.8
15°	1465.1	1448.2	1457.1	1464.7	1465.3
17.5°	1408.2	1426.5	1432.6	1449.9	1428.5
20°	1401.2	1387.9	1401.2	1418.9	1416.1
22.5°	1358.4	1343.5	1372.1	1387.9	1386.9
25°	1309.9	1317.0	1338.5	1356.0	1353.2
27.5°	1267.3	1275.6	1306.3	1330.4	1314.8
30°	1234.5	1230.3	1256.1	1277.6	1289.6
32.5°	1175.8	1190.9	1221.1	1242.4	1231.1
35°	1140.1	1143.5	1170.0	1197.0	1196.2
37.5°	1077.9	1093.6	1130.8	1138.3	1131.4
40°	1024.7	1040.4	1074.1	1082.2	1078.9
42.5°	985.5	988.3	1017.2	1026.5	1011.6
45°	917.3	934.4	949.9	974.4	951.3
47.5°	859.2	867.1	900.6	907.1	895.0
50°	806.5	809.2	842.9	834.7	826.7
52.5°	740.2	751.9	770.8	769.2	759.9
55°	685.7	681.1	699.0	694.2	694.0
57.5°	620.2	628.2	642.9	635.3	623.2
60°	558.9	559.1	564.5	555.9	554.3
62.5°	490.7	493.1	494.3	483.7	500.8
65°	421.2	415.7	432.0	415.5	418.2
67.5°	357.4	360.1	358.6	348.2	352.2
70°	292.5	296.1	293.5	281.8	285.3
72.5°	233.2	228.8	231.6	216.9	223.6
75°	175.3	171.7	174.9	162.6	168.1
77.5°	119.4	122.2	120.2	113.6	117.4
80°	78.8	76.6	76.6	72.8	73.6
82.5°	46.0	43.8	43.2	42.0	43.8
85°	21.5	20.9	21.3	20.7	19.9
87.5°	7.8	8.0	8.0	7.6	7.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)