

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: P590592

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-81-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590592  
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-LD4-3LO-50-UNV-81-87-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

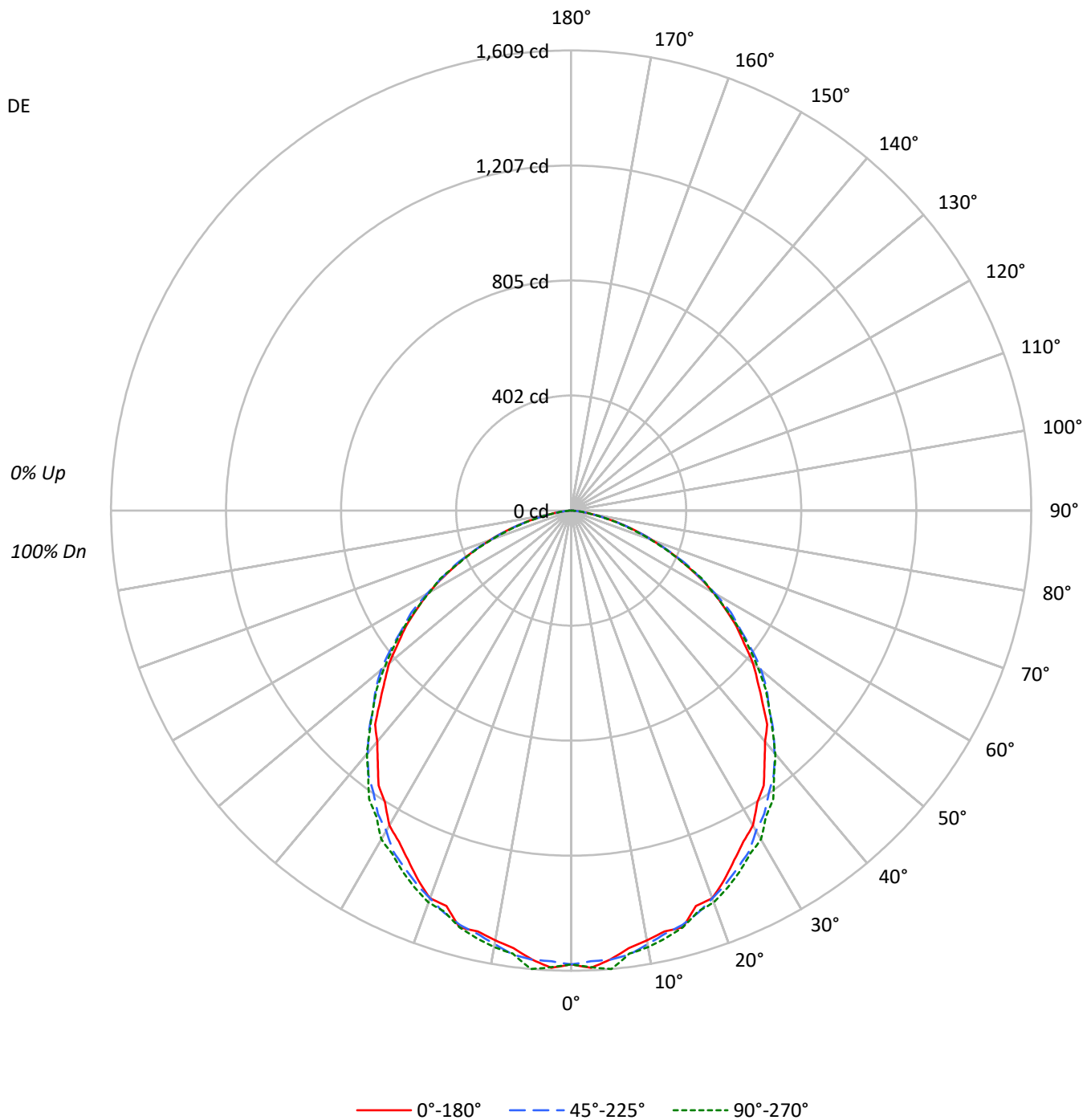
Lumens per Lamp: N/A  
Luminaire Lumens: 3999.0 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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°	4270	4270	4270
5°	4256	4257	4347
10°	4170	4206	4235
15°	4202	4179	4203
20°	4131	4131	4175
25°	4004	4092	4137
30°	3949	4019	4126
35°	3856	3957	4046
40°	3706	3885	3902
45°	3594	3722	3728
50°	3476	3633	3563
55°	3312	3377	3353
60°	3097	3128	3072
65°	2762	2832	2742
70°	2370	2378	2312
75°	1877	1873	1800
80°	1257	1223	1175
85°	682	676	633

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3818 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.3	3.7
10°-20°	423.0	10.6
20°-30°	633.7	15.8
30°-40°	751.1	18.8
40°-50°	752.5	18.8
50°-60°	638.8	16.0
60°-70°	430.7	10.8
70°-80°	189.2	4.7
80°-90°	30.8	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°	1206.0	30.2
0°-40°	1957.1	48.9
0°-60°	3348.4	83.7
0°-90°	3999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3999.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1587	1587	1587	1587	1587	
5°	1575	1572	1576	1571	1609	149
15°	1508	1491	1500	1508	1509	420
25°	1349	1356	1378	1396	1393	623
35°	1174	1177	1205	1232	1232	729
45°	944	962	978	1003	980	731
55°	706	701	720	715	715	628
65°	434	428	445	428	431	431
75°	180	177	180	167	173	193
85°	22	22	22	21	20	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1586.7	1586.7	1586.7	1586.7	1586.7
2.5°	1600.4	1588.3	1577.1	1590.2	1598.2
5°	1575.4	1571.7	1576.0	1571.3	1609.2
7.5°	1543.1	1557.2	1565.4	1560.3	1562.5
10°	1525.9	1520.9	1539.2	1551.9	1550.0
12.5°	1507.4	1514.8	1515.8	1529.5	1530.8
15°	1508.4	1491.0	1500.2	1508.0	1508.6
17.5°	1449.9	1468.7	1475.0	1492.9	1470.7
20°	1442.7	1429.0	1442.7	1460.9	1458.0
22.5°	1398.6	1383.3	1412.8	1429.0	1427.9
25°	1348.6	1356.0	1378.1	1396.2	1393.3
27.5°	1304.8	1313.4	1345.0	1369.7	1353.8
30°	1271.0	1266.7	1293.3	1315.5	1327.7
32.5°	1210.6	1226.1	1257.3	1279.2	1267.5
35°	1173.9	1177.4	1204.6	1232.5	1231.7
37.5°	1109.8	1126.0	1164.3	1172.0	1164.9
40°	1055.1	1071.3	1105.9	1114.3	1110.8
42.5°	1014.7	1017.6	1047.3	1056.9	1041.5
45°	944.4	962.1	978.0	1003.2	979.5
47.5°	884.6	892.8	927.2	934.0	921.5
50°	830.3	833.2	867.8	859.4	851.2
52.5°	762.1	774.2	793.7	792.0	782.4
55°	706.0	701.3	719.7	714.8	714.6
57.5°	638.6	646.8	661.9	654.1	641.6
60°	575.5	575.7	581.2	572.4	570.8
62.5°	505.2	507.7	508.9	498.0	515.7
65°	433.7	428.0	444.8	427.8	430.6
67.5°	367.9	370.8	369.2	358.5	362.6
70°	301.2	304.8	302.2	290.1	293.8
72.5°	240.1	235.6	238.5	223.3	230.3
75°	180.5	176.8	180.1	167.4	173.1
77.5°	122.9	125.8	123.7	117.0	120.9
80°	81.1	78.9	78.9	75.0	75.8
82.5°	47.3	45.1	44.5	43.2	45.1
85°	22.1	21.5	21.9	21.3	20.5
87.5°	8.0	8.2	8.2	7.8	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)