

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: P590538

Luminaire Tested: FSR-24-2-LD4-3LO-35-UNV-82-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590538  
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-35-UNV-82-94-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

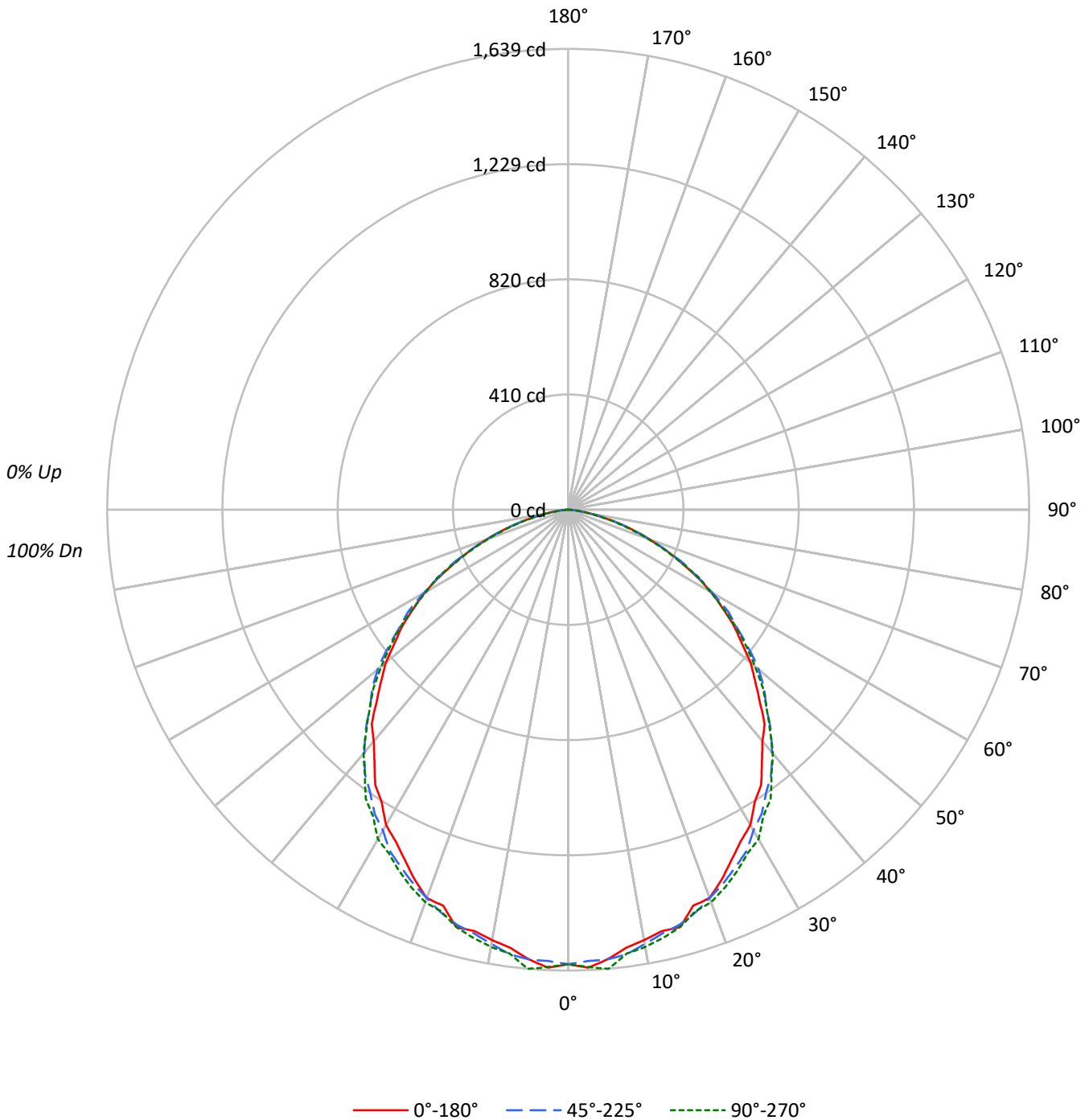
Lumens per Lamp: N/A  
Luminaire Lumens: 4074.0 lumens  
Efficiency: N/A  
Efficacy: 116.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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°	4350	4350	4350
5°	4336	4337	4428
10°	4248	4285	4315
15°	4281	4258	4282
20°	4209	4209	4254
25°	4079	4169	4214
30°	4023	4094	4203
35°	3929	4031	4122
40°	3776	3958	3975
45°	3662	3792	3797
50°	3541	3701	3630
55°	3374	3440	3415
60°	3155	3187	3130
65°	2813	2885	2793
70°	2414	2422	2355
75°	1912	1908	1834
80°	1280	1246	1196
85°	695	689	645

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3890 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.1	3.7
10°-20°	430.9	10.6
20°-30°	645.6	15.8
30°-40°	765.2	18.8
40°-50°	766.6	18.8
50°-60°	650.7	16.0
60°-70°	438.7	10.8
70°-80°	192.8	4.7
80°-90°	31.3	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°	1228.6	30.2
0°-40°	1993.8	48.9
0°-60°	3411.2	83.7
0°-90°	4074.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4074.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1616	1616	1616	1616	1616	
5°	1605	1601	1606	1601	1639	151
15°	1537	1519	1528	1536	1537	428
25°	1374	1382	1404	1422	1419	635
35°	1196	1200	1227	1256	1255	743
45°	962	980	996	1022	998	744
55°	719	714	733	728	728	640
65°	442	436	453	436	439	439
75°	184	180	184	170	176	197
85°	22	22	22	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1616.5	1616.5	1616.5	1616.5	1616.5
2.5°	1630.4	1618.1	1606.7	1620.0	1628.1
5°	1605.0	1601.2	1605.6	1600.8	1639.4
7.5°	1572.0	1586.4	1594.8	1589.5	1591.8
10°	1554.5	1549.5	1568.0	1581.0	1579.1
12.5°	1535.7	1543.2	1544.2	1558.2	1559.5
15°	1536.7	1519.0	1528.4	1536.3	1536.9
17.5°	1477.0	1496.2	1502.7	1520.9	1498.3
20°	1469.7	1455.8	1469.7	1488.3	1485.4
22.5°	1424.9	1409.2	1439.3	1455.8	1454.7
25°	1373.9	1381.5	1404.0	1422.4	1419.4
27.5°	1329.3	1338.0	1370.2	1395.4	1379.2
30°	1294.8	1290.5	1317.6	1340.1	1352.7
32.5°	1233.3	1249.1	1280.9	1303.2	1291.3
35°	1195.9	1199.5	1227.2	1255.6	1254.8
37.5°	1130.6	1147.1	1186.1	1194.0	1186.7
40°	1074.9	1091.3	1126.6	1135.2	1131.6
42.5°	1033.7	1036.7	1066.9	1076.7	1061.1
45°	962.2	980.1	996.4	1022.1	997.8
47.5°	901.2	909.6	944.6	951.5	938.8
50°	845.9	848.8	884.1	875.5	867.2
52.5°	776.4	788.7	808.5	806.9	797.1
55°	719.2	714.4	733.2	728.2	728.0
57.5°	650.5	658.9	674.3	666.4	653.7
60°	586.3	586.5	592.1	583.1	581.5
62.5°	514.7	517.2	518.4	507.4	525.3
65°	441.8	436.0	453.1	435.8	438.7
67.5°	374.8	377.8	376.1	365.2	369.4
70°	306.8	310.6	307.8	295.5	299.3
72.5°	244.6	240.0	242.9	227.5	234.6
75°	183.9	180.1	183.5	170.5	176.4
77.5°	125.2	128.1	126.1	119.2	123.1
80°	82.6	80.4	80.4	76.4	77.2
82.5°	48.2	45.9	45.3	44.0	45.9
85°	22.5	21.9	22.3	21.7	20.9
87.5°	8.1	8.3	8.3	7.9	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)