

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: P590338

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-81-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590338  
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-81-94-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

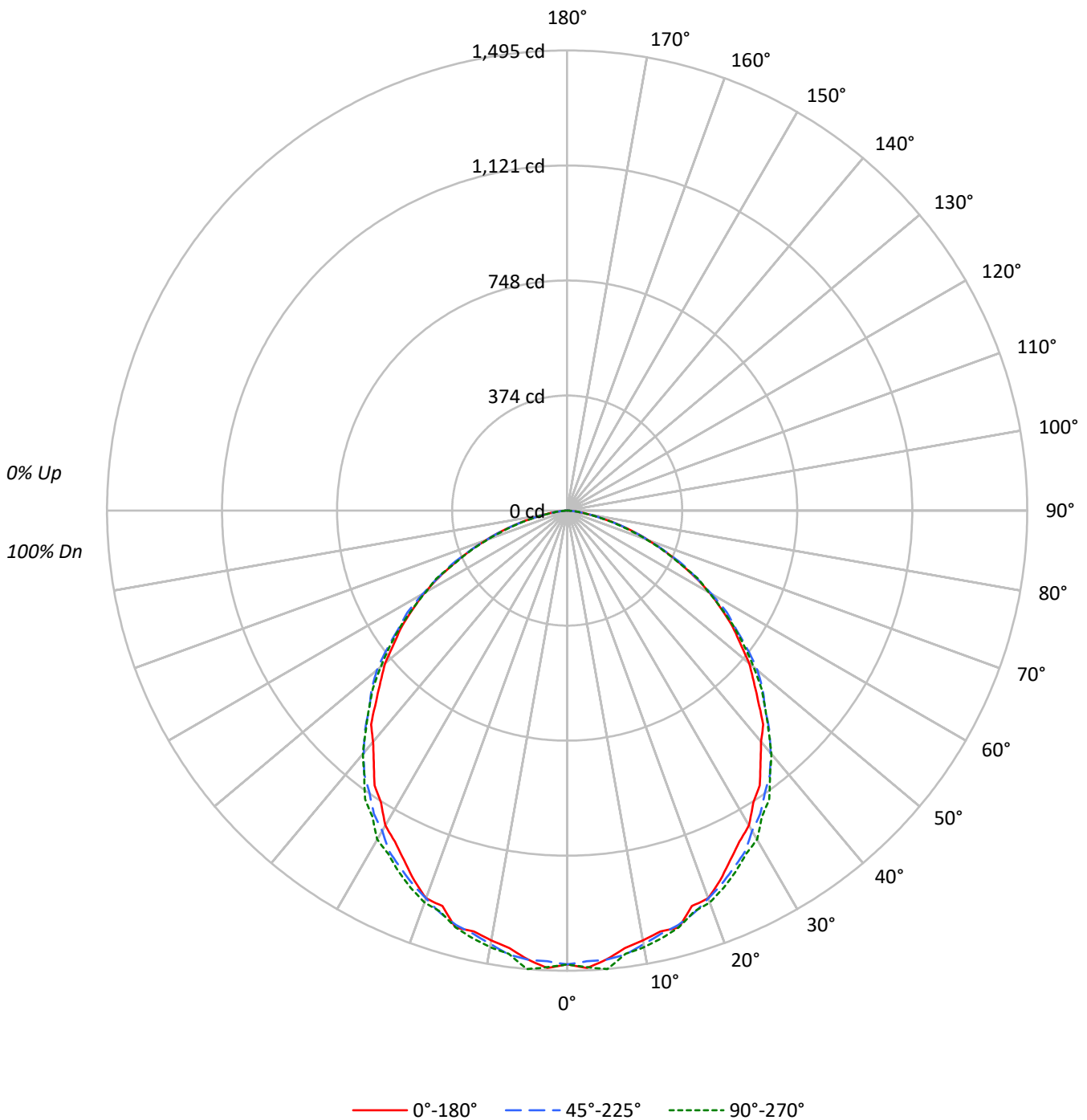
Lumens per Lamp: N/A  
Luminaire Lumens: 3716.0 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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	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°	3968	3968	3968
5°	3954	3956	4039
10°	3874	3908	3936
15°	3905	3884	3906
20°	3839	3839	3880
25°	3721	3802	3844
30°	3670	3734	3834
35°	3583	3677	3760
40°	3444	3610	3626
45°	3340	3459	3464
50°	3230	3376	3311
55°	3078	3138	3115
60°	2878	2907	2855
65°	2566	2632	2548
70°	2201	2209	2148
75°	1744	1739	1673
80°	1168	1136	1091
85°	636	630	587

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3548 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.7	3.7
10°-20°	393.1	10.6
20°-30°	588.9	15.8
30°-40°	698.0	18.8
40°-50°	699.2	18.8
50°-60°	593.6	16.0
60°-70°	400.2	10.8
70°-80°	175.8	4.7
80°-90°	28.6	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°	1120.7	30.2
0°-40°	1818.6	48.9
0°-60°	3111.4	83.7
0°-90°	3716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3716.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1474	1474	1474	1474	1474	
5°	1464	1460	1464	1460	1495	138
15°	1402	1386	1394	1401	1402	391
25°	1253	1260	1281	1297	1295	579
35°	1091	1094	1119	1145	1144	677
45°	878	894	909	932	910	679
55°	656	652	669	664	664	584
65°	403	398	413	398	400	401
75°	168	164	167	156	161	180
85°	21	20	20	20	19	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1474.4	1474.4	1474.4	1474.4	1474.4
2.5°	1487.2	1475.9	1465.5	1477.7	1485.1
5°	1463.9	1460.5	1464.5	1460.1	1495.4
7.5°	1433.9	1447.0	1454.6	1449.9	1452.0
10°	1417.9	1413.3	1430.2	1442.1	1440.3
12.5°	1400.7	1407.6	1408.5	1421.3	1422.4
15°	1401.7	1385.5	1394.1	1401.3	1401.9
17.5°	1347.2	1364.8	1370.7	1387.2	1366.7
20°	1340.6	1327.8	1340.6	1357.5	1354.9
22.5°	1299.7	1285.4	1312.8	1327.8	1326.9
25°	1253.2	1260.1	1280.6	1297.4	1294.7
27.5°	1212.5	1220.5	1249.8	1272.8	1258.0
30°	1181.1	1177.1	1201.8	1222.4	1233.8
32.5°	1124.9	1139.4	1168.3	1188.7	1177.8
35°	1090.8	1094.1	1119.4	1145.3	1144.5
37.5°	1031.2	1046.3	1081.9	1089.1	1082.4
40°	980.4	995.4	1027.6	1035.4	1032.2
42.5°	942.9	945.6	973.2	982.1	967.8
45°	877.6	894.0	908.8	932.2	910.2
47.5°	822.0	829.6	861.6	867.9	856.3
50°	771.6	774.2	806.4	798.6	791.0
52.5°	708.2	719.4	737.5	736.0	727.0
55°	656.0	651.6	668.8	664.2	664.0
57.5°	593.4	601.0	615.1	607.9	596.2
60°	534.7	534.9	540.1	531.9	530.4
62.5°	469.5	471.7	472.9	462.8	479.2
65°	403.0	397.7	413.3	397.5	400.2
67.5°	341.9	344.6	343.0	333.1	337.0
70°	279.8	283.3	280.8	269.6	273.0
72.5°	223.1	218.9	221.6	207.5	214.0
75°	167.7	164.3	167.3	155.5	160.9
77.5°	114.2	116.9	115.0	108.7	112.3
80°	75.4	73.3	73.3	69.7	70.4
82.5°	44.0	41.9	41.3	40.2	41.9
85°	20.6	20.0	20.4	19.8	19.0
87.5°	7.4	7.6	7.6	7.2	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)