

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: P590373

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-82-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590373  
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-40-UNV-82-84-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

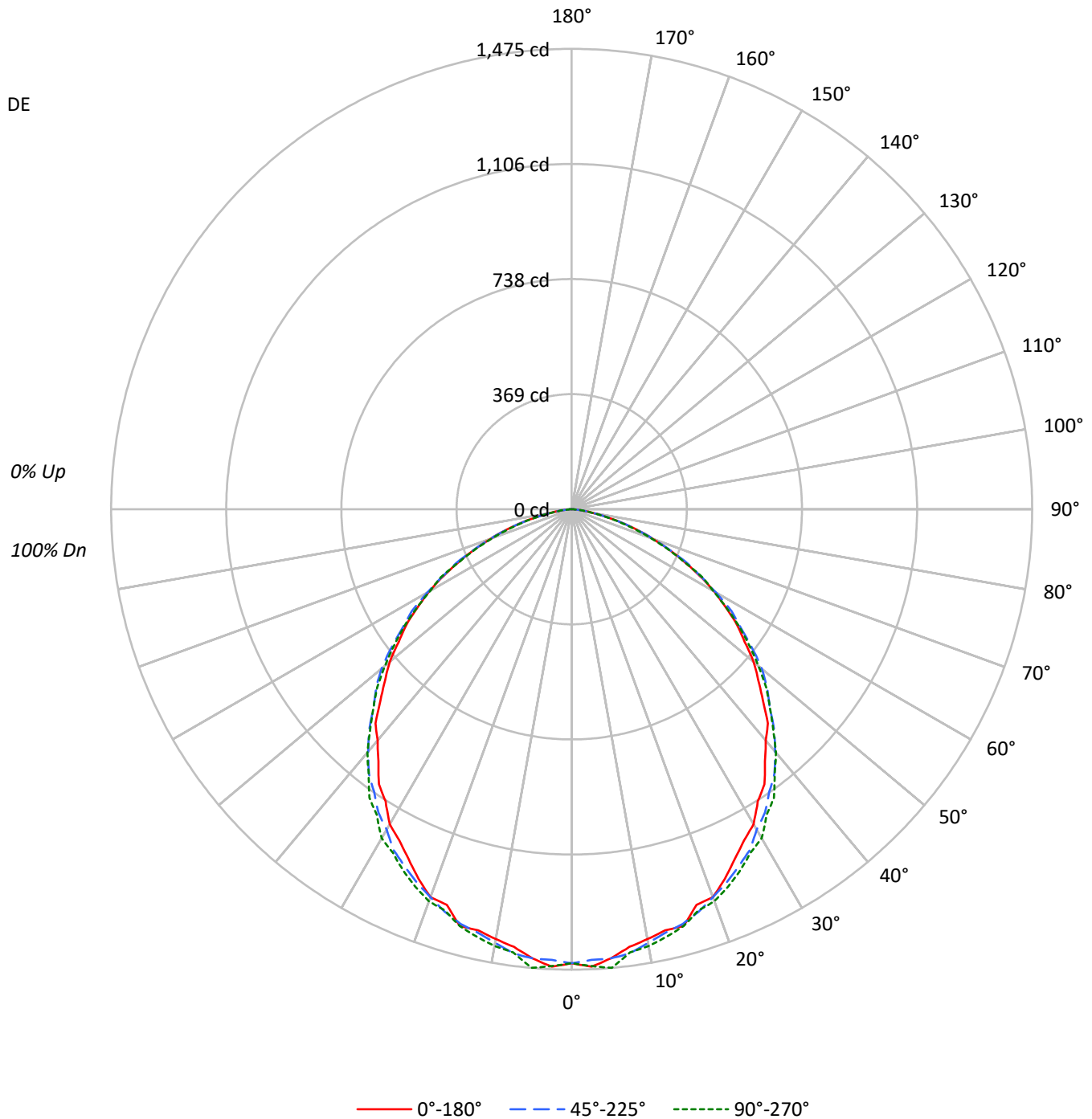
Lumens per Lamp: N/A  
Luminaire Lumens: 3665.0 lumens  
Efficiency: N/A  
Efficacy: 110.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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	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°	3913	3913	3913
5°	3900	3902	3984
10°	3821	3854	3882
15°	3852	3830	3852
20°	3786	3786	3827
25°	3670	3750	3791
30°	3619	3683	3781
35°	3534	3627	3708
40°	3397	3560	3576
45°	3294	3411	3416
50°	3186	3329	3266
55°	3035	3095	3073
60°	2838	2867	2815
65°	2531	2595	2513
70°	2172	2179	2118
75°	1720	1716	1650
80°	1153	1120	1077
85°	627	621	580

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3499 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.8	3.7
10°-20°	387.7	10.6
20°-30°	580.8	15.8
30°-40°	688.4	18.8
40°-50°	689.7	18.8
50°-60°	585.4	16.0
60°-70°	394.7	10.8
70°-80°	173.4	4.7
80°-90°	28.2	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°	1105.3	30.2
0°-40°	1793.7	48.9
0°-60°	3068.7	83.7
0°-90°	3665.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3665.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1454	1454	1454	1454	1454	
5°	1444	1440	1444	1440	1475	136
15°	1382	1366	1375	1382	1383	385
25°	1236	1243	1263	1280	1277	571
35°	1076	1079	1104	1130	1129	668
45°	866	882	896	919	898	670
55°	647	643	660	655	655	576
65°	398	392	408	392	395	395
75°	165	162	165	153	159	177
85°	20	20	20	20	19	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1454.2	1454.2	1454.2	1454.2	1454.2
2.5°	1466.8	1455.7	1445.4	1457.4	1464.7
5°	1443.9	1440.5	1444.4	1440.1	1474.8
7.5°	1414.2	1427.1	1434.7	1430.0	1432.0
10°	1398.4	1393.9	1410.6	1422.3	1420.6
12.5°	1381.5	1388.3	1389.2	1401.8	1402.9
15°	1382.5	1366.5	1374.9	1382.1	1382.6
17.5°	1328.8	1346.0	1351.9	1368.2	1347.9
20°	1322.2	1309.6	1322.2	1338.9	1336.3
22.5°	1281.8	1267.7	1294.8	1309.6	1308.7
25°	1236.0	1242.8	1263.0	1279.6	1276.9
27.5°	1195.8	1203.7	1232.6	1255.3	1240.7
30°	1164.8	1160.9	1185.3	1205.6	1216.9
32.5°	1109.5	1123.7	1152.3	1172.4	1161.7
35°	1075.8	1079.0	1104.0	1129.5	1128.8
37.5°	1017.1	1031.9	1067.0	1074.2	1067.6
40°	966.9	981.8	1013.5	1021.2	1018.0
42.5°	930.0	932.6	959.8	968.6	954.6
45°	865.6	881.7	896.4	919.4	897.7
47.5°	810.7	818.2	849.8	856.0	844.5
50°	761.0	763.6	795.3	787.6	780.1
52.5°	698.5	709.5	727.4	725.9	717.0
55°	647.0	642.7	659.6	655.1	654.9
57.5°	585.2	592.7	606.6	599.5	588.1
60°	527.4	527.6	532.7	524.6	523.1
62.5°	463.0	465.3	466.4	456.4	472.6
65°	397.5	392.2	407.6	392.0	394.7
67.5°	337.2	339.8	338.3	328.6	332.3
70°	276.0	279.4	276.9	265.9	269.2
72.5°	220.1	215.9	218.5	204.7	211.0
75°	165.4	162.0	165.0	153.4	158.7
77.5°	112.7	115.3	113.4	107.2	110.8
80°	74.4	72.3	72.3	68.7	69.5
82.5°	43.4	41.3	40.7	39.6	41.3
85°	20.3	19.7	20.1	19.5	18.8
87.5°	7.3	7.5	7.5	7.1	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)