

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: P560641

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-81-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560641  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-12-2-LD4-2STD-40-UNV-81-84-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

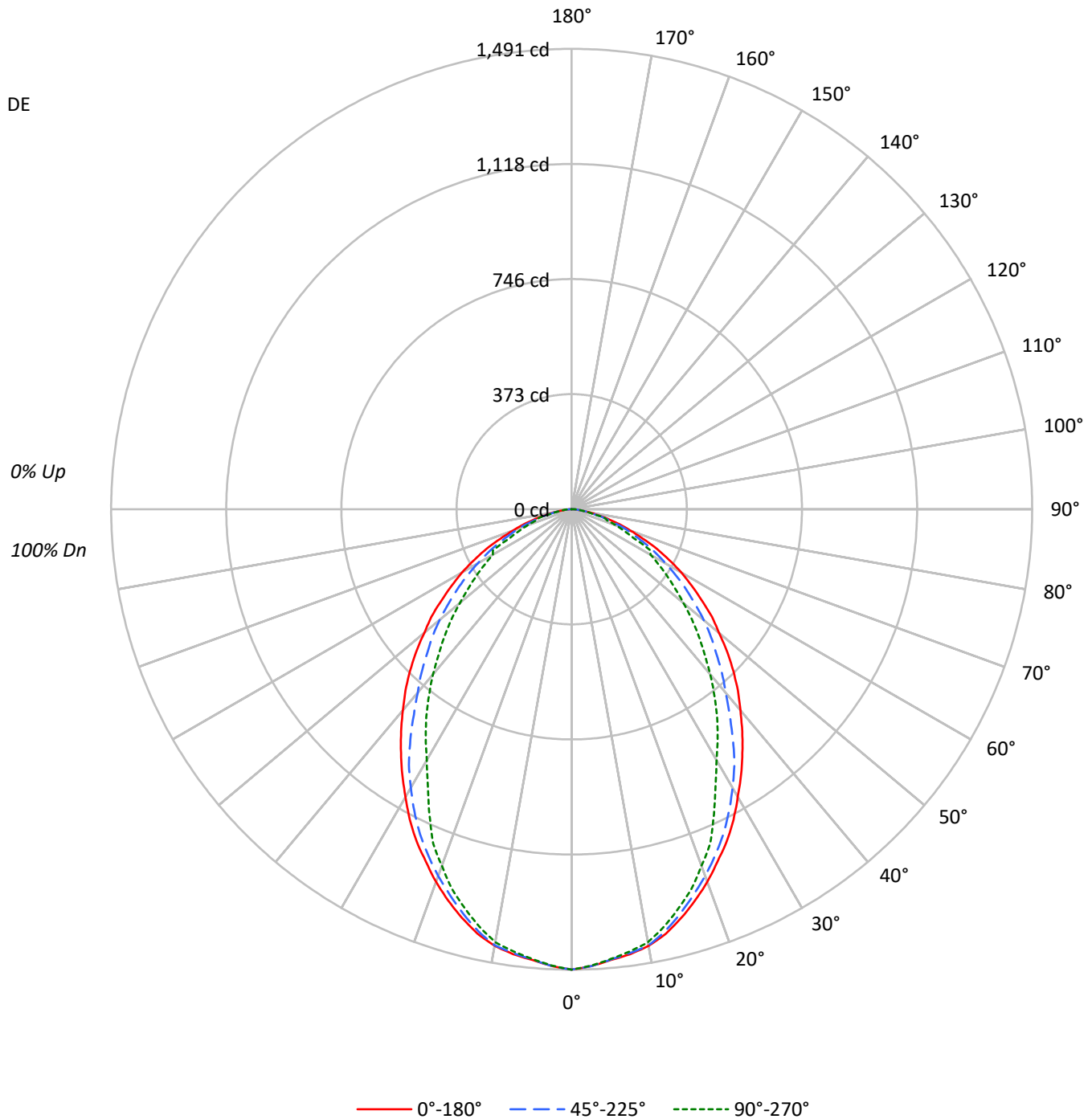
Lumens per Lamp: N/A  
Luminaire Lumens: 2927.0 lumens  
Efficiency: N/A  
Efficacy: 87.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	8024	8024	8024
5°	7915	7906	7897
10°	7847	7837	7781
15°	7635	7558	7453
20°	7355	7237	7039
25°	7052	6899	6469
30°	6684	6470	5827
35°	6330	5979	5391
40°	5970	5450	4905
45°	5629	5038	4434
50°	5210	4676	3954
55°	4820	4237	3542
60°	4415	3785	3172
65°	3885	3315	2809
70°	3201	2902	2387
75°	2545	2223	2329
80°	1711	1602	1497
85°	1062	1278	1488

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5629 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.8	4.7
10°-20°	380.9	13.0
20°-30°	527.3	18.0
30°-40°	562.3	19.2
40°-50°	513.0	17.5
50°-60°	401.9	13.7
60°-70°	261.9	8.9
70°-80°	116.0	4.0
80°-90°	24.9	0.9
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°	1047.0	35.8
0°-40°	1609.3	55.0
0°-60°	2524.1	86.2
0°-90°	2927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2927.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1491	1491	1491	1491	1491	
5°	1465	1463	1463	1462	1462	139
15°	1370	1370	1356	1343	1338	385
25°	1188	1181	1162	1120	1089	545
35°	964	957	910	841	820	602
45°	740	724	662	607	583	570
55°	514	498	452	398	378	461
65°	305	288	260	265	221	301
75°	122	114	107	102	112	131
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1491.0	1491.0	1491.0	1491.0	1491.0
2.5°	1480.6	1480.6	1480.6	1478.9	1478.9
5°	1465.1	1463.4	1463.4	1461.7	1461.7
7.5°	1453.1	1451.3	1449.6	1447.9	1444.4
10°	1435.8	1435.8	1434.1	1425.5	1423.8
12.5°	1408.2	1406.5	1399.6	1387.6	1384.1
15°	1370.3	1370.3	1356.5	1342.7	1337.6
17.5°	1328.9	1327.2	1310.0	1296.2	1289.3
20°	1284.1	1280.7	1263.5	1241.0	1229.0
22.5°	1234.1	1234.1	1213.5	1184.2	1172.1
25°	1187.6	1180.7	1161.8	1120.4	1089.4
27.5°	1134.2	1123.8	1103.1	1044.5	1008.3
30°	1075.6	1070.4	1041.1	965.3	937.7
32.5°	1020.4	1011.8	980.8	901.5	879.1
35°	963.5	956.6	910.1	841.2	820.5
37.5°	906.7	898.0	839.4	784.3	758.4
40°	849.8	839.4	775.7	725.7	698.1
42.5°	796.3	782.5	720.5	667.1	636.0
45°	739.5	723.9	661.9	606.7	582.6
47.5°	682.6	668.8	611.9	555.0	527.4
50°	622.2	610.2	558.5	501.6	472.3
52.5°	572.3	553.3	503.3	446.4	422.3
55°	513.7	498.1	451.6	398.2	377.5
57.5°	460.2	444.7	401.6	351.6	334.4
60°	410.2	387.8	351.6	308.5	294.7
62.5°	355.1	337.8	306.8	270.6	287.9
65°	305.1	287.9	260.3	265.4	220.6
67.5°	249.9	241.3	217.2	193.1	186.2
70°	203.4	193.1	184.4	158.6	151.7
72.5°	162.0	151.7	139.6	125.8	120.7
75°	122.4	113.8	106.9	101.7	112.0
77.5°	84.5	81.0	75.8	70.7	68.9
80°	55.2	53.4	51.7	50.0	48.3
82.5°	32.7	32.7	32.7	32.7	32.7
85°	17.2	19.0	20.7	22.4	24.1
87.5°	10.3	10.3	12.1	13.8	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)