

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: P560856

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560856  
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-12-4-LD4-1HI-40-UNV-82-88-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

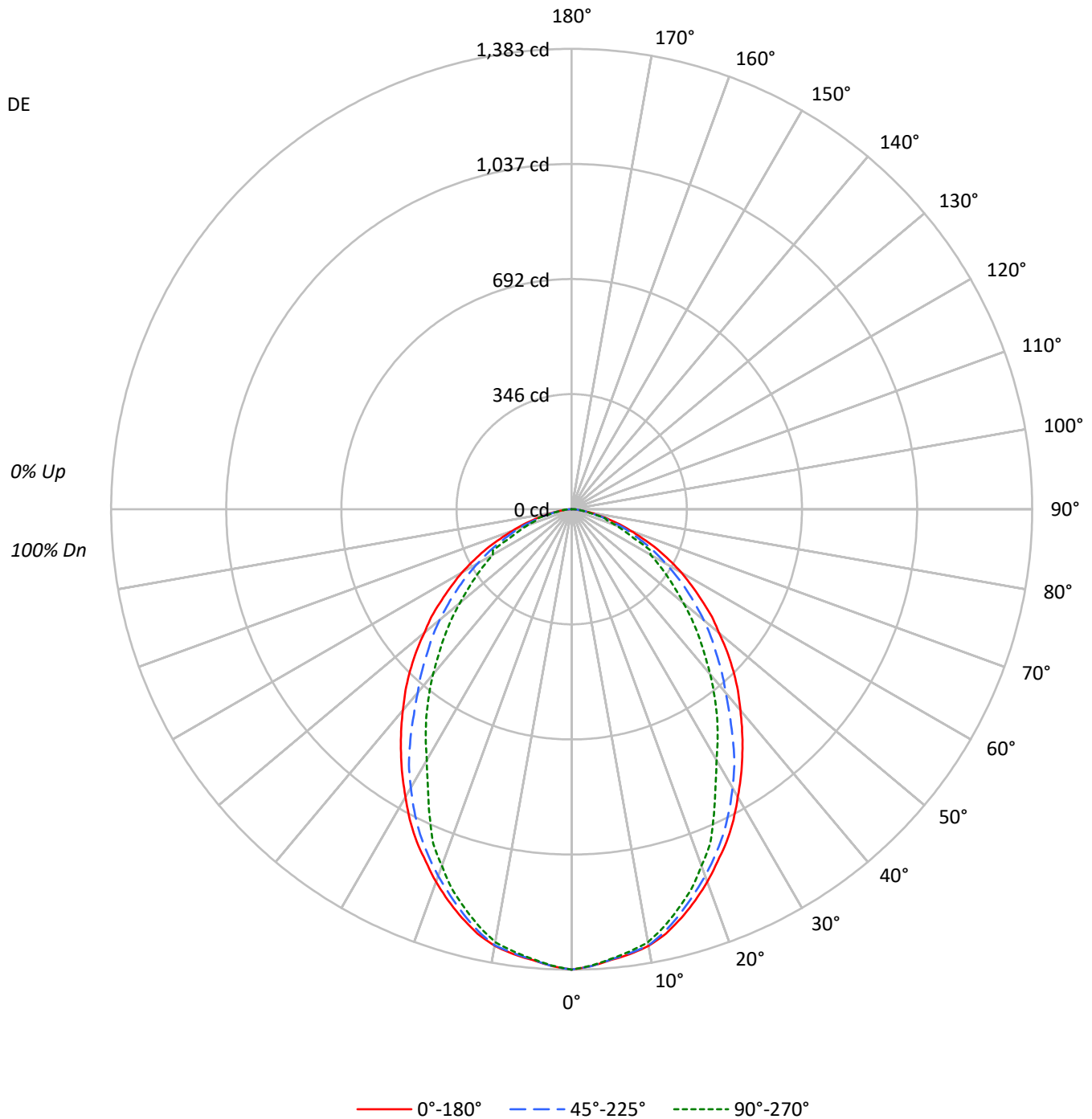
Lumens per Lamp: N/A  
Luminaire Lumens: 2715.0 lumens  
Efficiency: N/A  
Efficacy: 62.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3722	3722	3722
5°	3671	3667	3662
10°	3639	3635	3609
15°	3541	3506	3456
20°	3411	3356	3265
25°	3271	3200	3000
30°	3100	3001	2703
35°	2936	2773	2500
40°	2769	2527	2275
45°	2610	2336	2057
50°	2416	2169	1834
55°	2236	1965	1643
60°	2048	1756	1471
65°	1802	1537	1303
70°	1485	1346	1107
75°	1180	1030	1080
80°	793	744	694
85°	494	593	692

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2610 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	128.7	4.7
10°-20°	353.3	13.0
20°-30°	489.1	18.0
30°-40°	521.6	19.2
40°-50°	475.8	17.5
50°-60°	372.8	13.7
60°-70°	243.0	8.9
70°-80°	107.6	4.0
80°-90°	23.1	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°	971.2	35.8
0°-40°	1492.7	55.0
0°-60°	2341.3	86.2
0°-90°	2715.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2715.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1383	1383	1383	1383	1383	
5°	1359	1357	1357	1356	1356	129
15°	1271	1271	1258	1246	1241	357
25°	1102	1095	1078	1039	1010	506
35°	894	887	844	780	761	559
45°	686	672	614	563	540	528
55°	476	462	419	369	350	427
65°	283	267	241	246	205	279
75°	114	106	99	94	104	122
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1383.0	1383.0	1383.0	1383.0	1383.0
2.5°	1373.4	1373.4	1373.4	1371.8	1371.8
5°	1359.0	1357.4	1357.4	1355.8	1355.8
7.5°	1347.8	1346.2	1344.6	1343.0	1339.8
10°	1331.8	1331.8	1330.2	1322.2	1320.6
12.5°	1306.2	1304.6	1298.2	1287.1	1283.9
15°	1271.1	1271.1	1258.3	1245.5	1240.7
17.5°	1232.7	1231.1	1215.1	1202.3	1195.9
20°	1191.1	1187.9	1171.9	1151.2	1140.0
22.5°	1144.8	1144.8	1125.6	1098.4	1087.2
25°	1101.6	1095.2	1077.6	1039.2	1010.5
27.5°	1052.0	1042.4	1023.2	968.9	935.3
30°	997.7	992.9	965.7	895.3	869.8
32.5°	946.5	938.5	909.7	836.2	815.4
35°	893.7	887.3	844.2	780.2	761.0
37.5°	841.0	833.0	778.6	727.5	703.5
40°	788.2	778.6	719.5	673.1	647.5
42.5°	738.7	725.9	668.3	618.7	590.0
45°	685.9	671.5	613.9	562.8	540.4
47.5°	633.1	620.3	567.6	514.8	489.2
50°	577.2	566.0	518.0	465.3	438.1
52.5°	530.8	513.2	466.9	414.1	391.7
55°	476.5	462.1	418.9	369.3	350.1
57.5°	426.9	412.5	372.5	326.2	310.2
60°	380.5	359.7	326.2	286.2	273.4
62.5°	329.4	313.4	284.6	251.0	267.0
65°	283.0	267.0	241.4	246.2	204.6
67.5°	231.8	223.8	201.5	179.1	172.7
70°	188.7	179.1	171.1	147.1	140.7
72.5°	150.3	140.7	129.5	116.7	111.9
75°	113.5	105.5	99.1	94.3	103.9
77.5°	78.3	75.1	70.3	65.6	64.0
80°	51.2	49.6	48.0	46.4	44.8
82.5°	30.4	30.4	30.4	30.4	30.4
85°	16.0	17.6	19.2	20.8	22.4
87.5°	9.6	9.6	11.2	12.8	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)