

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: P590267

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-80-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590267  
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-LD4-2LO-40-UNV-80-96-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

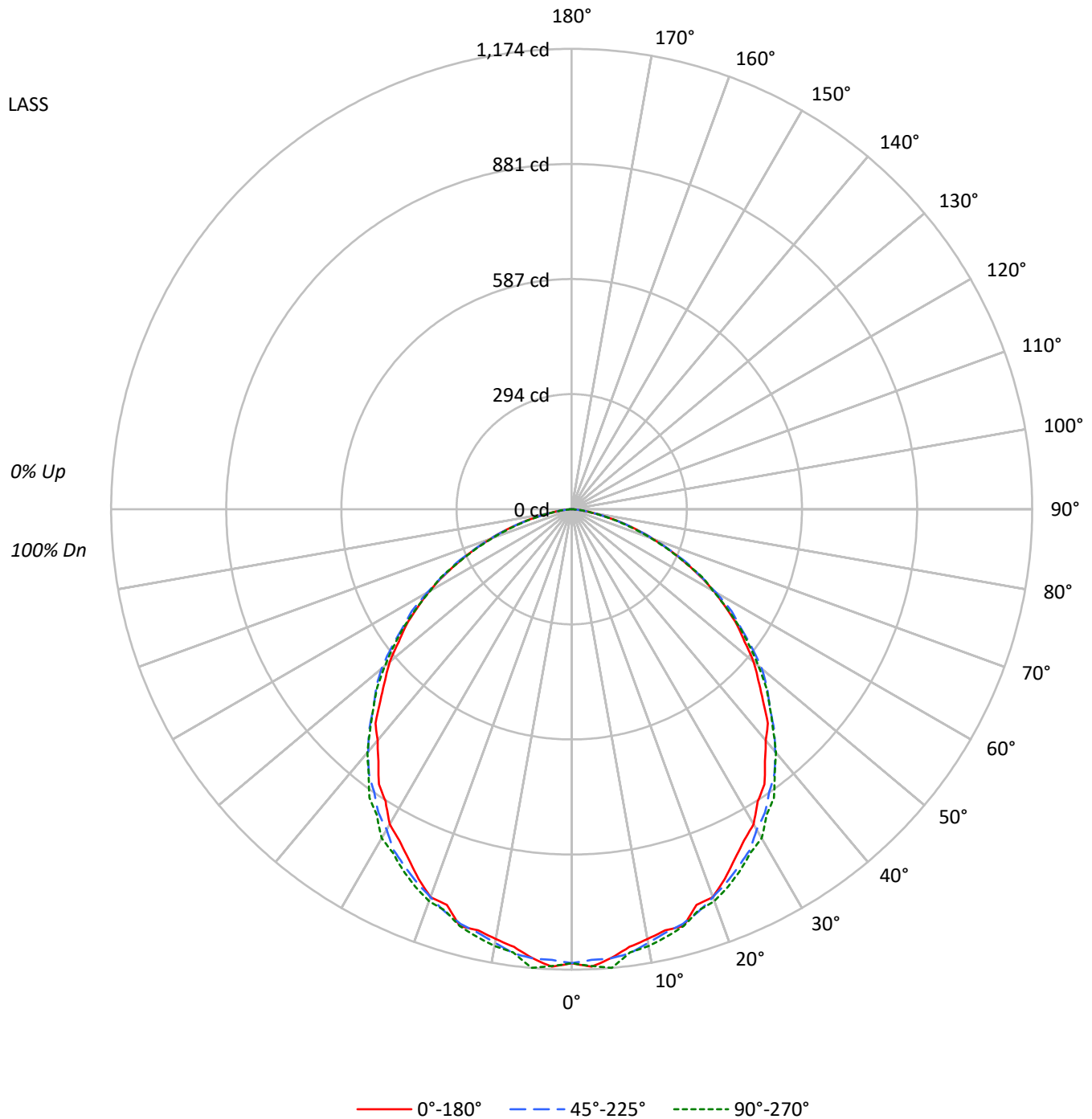
Lumens per Lamp: N/A  
Luminaire Lumens: 2917.0 lumens  
Efficiency: N/A  
Efficacy: 124.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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°	3115	3115	3115
5°	3104	3105	3171
10°	3041	3068	3089
15°	3065	3049	3066
20°	3013	3013	3046
25°	2921	2985	3018
30°	2881	2931	3009
35°	2813	2887	2951
40°	2703	2834	2846
45°	2622	2715	2719
50°	2536	2650	2599
55°	2416	2463	2445
60°	2259	2282	2241
65°	2015	2066	2000
70°	1729	1734	1686
75°	1369	1366	1313
80°	917	891	857
85°	497	494	460

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2785 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.9	3.7
10°-20°	308.5	10.6
20°-30°	462.3	15.8
30°-40°	547.9	18.8
40°-50°	548.9	18.8
50°-60°	465.9	16.0
60°-70°	314.1	10.8
70°-80°	138.0	4.7
80°-90°	22.4	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°	879.7	30.2
0°-40°	1427.6	48.9
0°-60°	2442.4	83.7
0°-90°	2917.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2917.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1157	1157	1157	1157	1157	
5°	1149	1146	1150	1146	1174	108
15°	1100	1088	1094	1100	1100	307
25°	984	989	1005	1018	1016	455
35°	856	859	879	899	898	532
45°	689	702	713	732	714	533
55°	515	512	525	521	521	458
65°	316	312	324	312	314	315
75°	132	129	131	122	126	141
85°	16	16	16	16	15	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1157.4	1157.4	1157.4	1157.4	1157.4
2.5°	1167.4	1158.6	1150.4	1159.9	1165.8
5°	1149.2	1146.5	1149.6	1146.2	1173.8
7.5°	1125.6	1135.9	1141.9	1138.1	1139.8
10°	1113.0	1109.4	1122.7	1132.0	1130.6
12.5°	1099.6	1104.9	1105.7	1115.7	1116.6
15°	1100.3	1087.6	1094.3	1100.0	1100.5
17.5°	1057.6	1071.3	1075.9	1088.9	1072.8
20°	1052.3	1042.3	1052.3	1065.6	1063.5
22.5°	1020.2	1009.0	1030.5	1042.3	1041.6
25°	983.7	989.1	1005.3	1018.4	1016.3
27.5°	951.8	958.0	981.1	999.1	987.5
30°	927.1	924.0	943.4	959.5	968.5
32.5°	883.0	894.4	917.1	933.1	924.6
35°	856.3	858.8	878.7	899.0	898.4
37.5°	809.5	821.3	849.3	854.9	849.7
40°	769.6	781.4	806.7	812.8	810.2
42.5°	740.2	742.3	763.9	770.9	759.7
45°	688.9	701.8	713.4	731.8	714.5
47.5°	645.3	651.2	676.4	681.3	672.2
50°	605.7	607.8	633.0	626.9	620.9
52.5°	555.9	564.7	578.9	577.7	570.7
55°	515.0	511.5	525.0	521.4	521.2
57.5°	465.8	471.8	482.8	477.2	468.0
60°	419.8	419.9	424.0	417.5	416.3
62.5°	368.5	370.3	371.2	363.3	376.1
65°	316.4	312.2	324.4	312.0	314.1
67.5°	268.4	270.5	269.3	261.5	264.5
70°	219.7	222.4	220.4	211.6	214.3
72.5°	175.1	171.9	173.9	162.9	168.0
75°	131.7	129.0	131.4	122.1	126.3
77.5°	89.7	91.8	90.3	85.3	88.2
80°	59.2	57.5	57.5	54.7	55.3
82.5°	34.5	32.9	32.4	31.5	32.9
85°	16.1	15.7	16.0	15.5	14.9
87.5°	5.8	6.0	6.0	5.7	5.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)