

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: P590262

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-80-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590262  
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-80-85-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

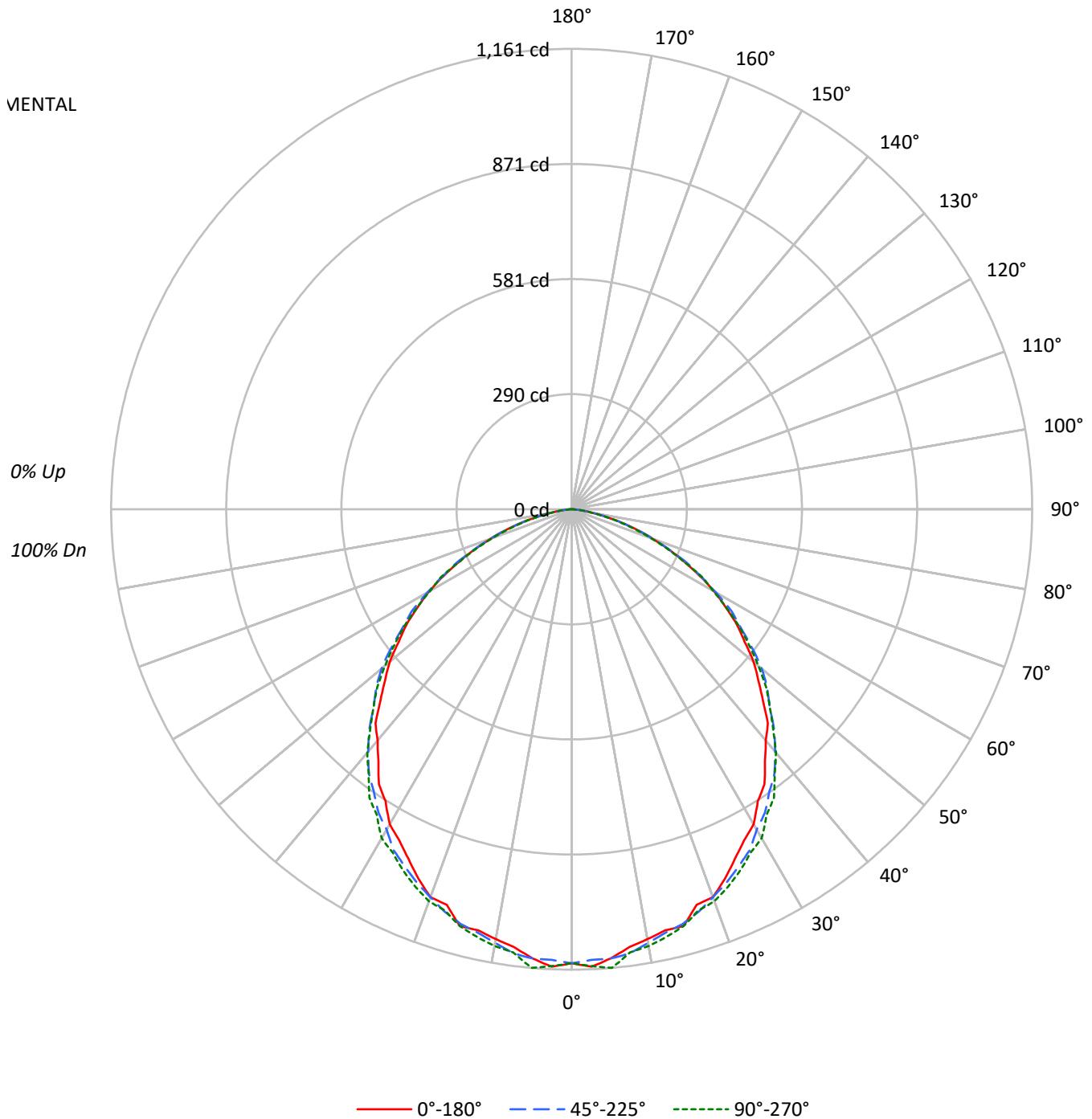
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2885.0 lumens  
Efficiency: N/A  
Efficacy: 123.3 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



TEST NUMBER: P590262  
CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P590262

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-85-EDD

**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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	3080	3080	3080
5°	3070	3071	3136
10°	3008	3034	3055
15°	3032	3015	3032
20°	2981	2981	3012
25°	2889	2952	2985
30°	2849	2899	2976
35°	2782	2855	2919
40°	2674	2803	2815
45°	2593	2685	2689
50°	2508	2621	2571
55°	2389	2436	2419
60°	2235	2257	2216
65°	1992	2043	1978
70°	1710	1715	1667
75°	1354	1351	1299
80°	907	882	848
85°	494	488	457

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2755 cd/sqm



TEST NUMBER: P590262

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	107.7	3.7
10°-20°	305.2	10.6
20°-30°	457.2	15.8
30°-40°	541.9	18.8
40°-50°	542.9	18.8
50°-60°	460.8	16.0
60°-70°	310.7	10.8
70°-80°	136.5	4.7
80°-90°	22.2	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°	870.0	30.2
0°-40°	1411.9	48.9
0°-60°	2415.6	83.7
0°-90°	2885.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2885.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1145	1145	1145	1145	1145	
5°	1137	1134	1137	1134	1161	107
15°	1088	1076	1082	1088	1088	303
25°	973	978	994	1007	1005	450
35°	847	849	869	889	889	526
45°	681	694	706	724	707	527
55°	509	506	519	516	516	453
65°	313	309	321	309	311	311
75°	130	128	130	121	125	140
85°	16	16	16	15	15	23
90°	0	0	0	0	0	



TEST NUMBER: P590262

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1144.7	1144.7	1144.7	1144.7	1144.7
2.5°	1154.6	1145.9	1137.7	1147.2	1153.0
5°	1136.6	1133.9	1137.0	1133.6	1161.0
7.5°	1113.2	1123.4	1129.3	1125.6	1127.3
10°	1100.8	1097.3	1110.4	1119.6	1118.2
12.5°	1087.5	1092.8	1093.6	1103.5	1104.3
15°	1088.2	1075.7	1082.3	1087.9	1088.4
17.5°	1046.0	1059.6	1064.1	1077.0	1061.0
20°	1040.8	1030.9	1040.8	1053.9	1051.9
22.5°	1009.0	997.9	1019.2	1030.9	1030.2
25°	973.0	978.3	994.2	1007.2	1005.2
27.5°	941.3	947.5	970.3	988.2	976.6
30°	916.9	913.8	933.0	949.0	957.9
32.5°	873.3	884.6	907.0	922.9	914.4
35°	846.9	849.4	869.1	889.2	888.6
37.5°	800.6	812.3	839.9	845.6	840.4
40°	761.2	772.8	797.8	803.9	801.4
42.5°	732.0	734.1	755.5	762.5	751.4
45°	681.3	694.1	705.6	723.8	706.6
47.5°	638.2	644.1	668.9	673.8	664.8
50°	599.0	601.1	626.1	620.0	614.1
52.5°	549.8	558.5	572.6	571.4	564.4
55°	509.3	505.9	519.2	515.7	515.5
57.5°	460.7	466.6	477.5	471.9	462.9
60°	415.2	415.3	419.3	412.9	411.8
62.5°	364.5	366.2	367.1	359.3	372.0
65°	312.9	308.7	320.9	308.6	310.7
67.5°	265.4	267.5	266.3	258.6	261.6
70°	217.3	219.9	218.0	209.3	211.9
72.5°	173.2	170.0	172.0	161.1	166.1
75°	130.2	127.5	129.9	120.8	124.9
77.5°	88.7	90.7	89.3	84.4	87.2
80°	58.5	56.9	56.9	54.1	54.7
82.5°	34.1	32.5	32.1	31.2	32.5
85°	16.0	15.5	15.8	15.4	14.8
87.5°	5.8	5.9	5.9	5.6	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)