

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: P563312

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563312  
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-24-4-LD4-3LO-40-UNV-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

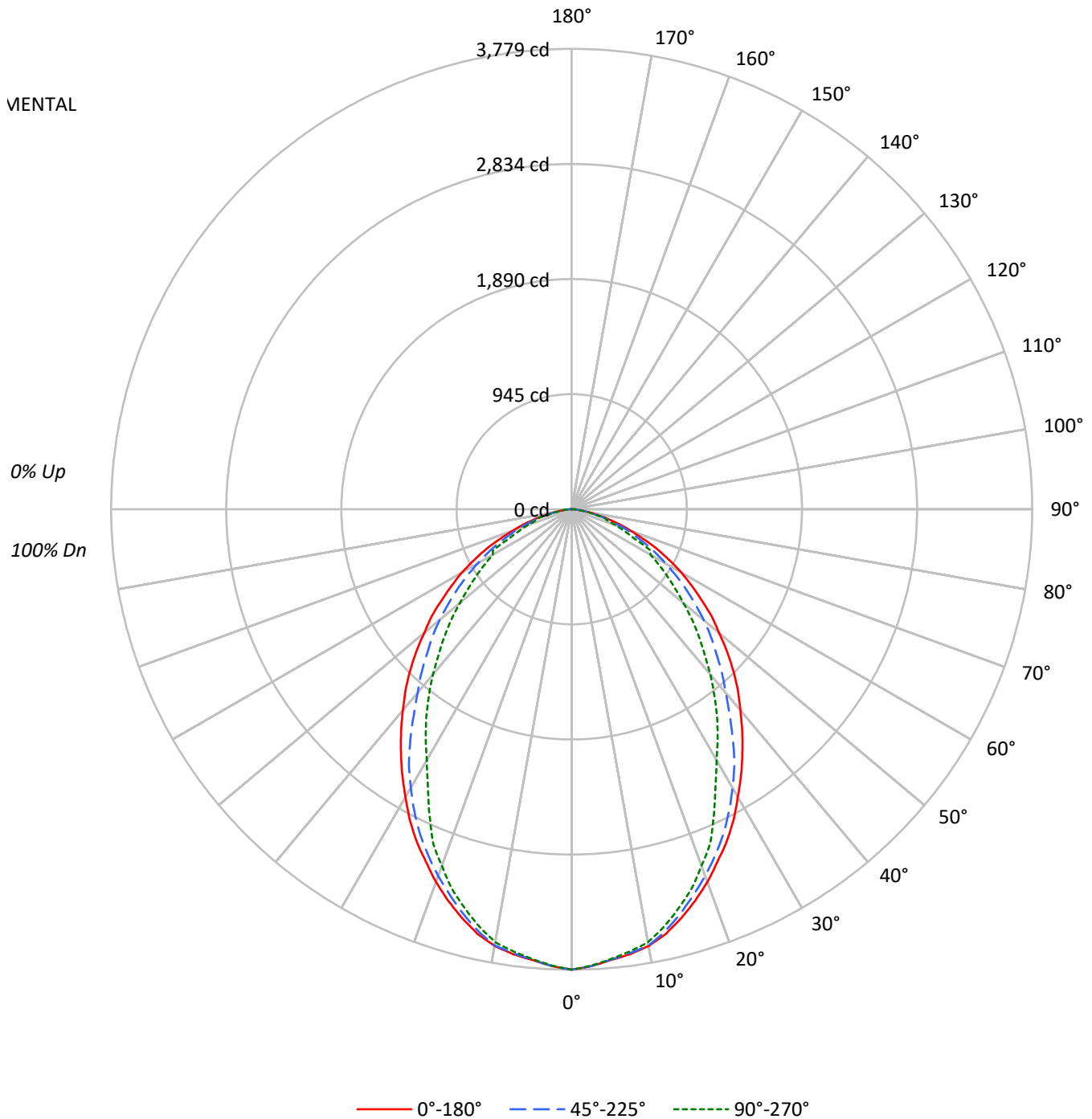
Lumens per Lamp: N/A  
Luminaire Lumens: 7419.0 lumens  
Efficiency: N/A  
Efficacy: 105.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P563312

CATALOG NUMBER: FSR-24-4-LD4-3LO-40-UNV-80-84-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P563312

CATALOG NUMBER: FSR-24-4-LD4-3LO-40-UNV-80-84-EDD-90

**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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

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

	0°	45°	90°
0°	5085	5085	5085
5°	5016	5010	5004
10°	4972	4966	4931
15°	4838	4790	4723
20°	4660	4585	4460
25°	4469	4372	4099
30°	4236	4100	3693
35°	4011	3789	3416
40°	3783	3453	3108
45°	3566	3192	2810
50°	3301	2963	2506
55°	3054	2685	2244
60°	2798	2398	2010
65°	2462	2100	1780
70°	2028	1839	1513
75°	1613	1408	1476
80°	1083	1016	948
85°	675	809	945

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3566 cd/sqm



TEST NUMBER: P563312

CATALOG NUMBER: FSR-24-4-LD4-3LO-40-UNV-80-84-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	351.8	4.7
10°-20°	965.4	13.0
20°-30°	1336.6	18.0
30°-40°	1425.2	19.2
40°-50°	1300.2	17.5
50°-60°	1018.6	13.7
60°-70°	663.9	8.9
70°-80°	294.1	4.0
80°-90°	63.2	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°	2653.8	35.8
0°-40°	4079.0	55.0
0°-60°	6397.9	86.2
0°-90°	7419.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7419.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3779	3779	3779	3779	3779	
5°	3714	3709	3709	3705	3705	353
15°	3473	3473	3438	3403	3390	976
25°	3010	2993	2945	2840	2761	1382
35°	2442	2425	2307	2132	2080	1527
45°	1874	1835	1678	1538	1477	1444
55°	1302	1263	1145	1009	957	1168
65°	773	730	660	673	559	762
75°	310	288	271	258	284	332
85°	44	48	52	57	61	61
90°	0	0	0	0	0	



TEST NUMBER: P563312

CATALOG NUMBER: FSR-24-4-LD4-3LO-40-UNV-80-84-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3779.1	3779.1	3779.1	3779.1	3779.1
2.5°	3752.9	3752.9	3752.9	3748.6	3748.6
5°	3713.6	3709.2	3709.2	3704.9	3704.9
7.5°	3683.0	3678.7	3674.3	3669.9	3661.2
10°	3639.3	3639.3	3635.0	3613.1	3608.8
12.5°	3569.4	3565.1	3547.6	3517.0	3508.3
15°	3473.3	3473.3	3438.4	3403.4	3390.3
17.5°	3368.5	3364.1	3320.4	3285.4	3268.0
20°	3254.9	3246.1	3202.4	3145.6	3115.1
22.5°	3128.2	3128.2	3075.7	3001.5	2970.9
25°	3010.2	2992.7	2944.7	2839.8	2761.2
27.5°	2874.8	2848.6	2796.1	2647.6	2555.8
30°	2726.2	2713.1	2638.8	2446.6	2376.7
32.5°	2586.4	2564.6	2485.9	2285.0	2228.2
35°	2442.2	2424.8	2306.8	2132.0	2079.6
37.5°	2298.1	2276.2	2127.7	1987.9	1922.3
40°	2153.9	2127.7	1966.0	1839.3	1769.4
42.5°	2018.5	1983.5	1826.2	1690.8	1612.1
45°	1874.3	1835.0	1677.7	1537.9	1476.7
47.5°	1730.1	1695.2	1551.0	1406.8	1336.9
50°	1577.2	1546.6	1415.5	1271.4	1197.1
52.5°	1450.5	1402.4	1275.7	1131.6	1070.4
55°	1301.9	1262.6	1144.7	1009.2	956.8
57.5°	1166.5	1127.2	1018.0	891.3	847.6
60°	1039.8	983.0	891.3	782.0	747.1
62.5°	900.0	856.3	777.7	685.9	729.6
65°	773.3	729.6	659.7	672.8	559.2
67.5°	633.5	611.7	550.5	489.3	471.8
70°	515.5	489.3	467.5	401.9	384.5
72.5°	410.7	384.5	353.9	318.9	305.8
75°	310.2	288.4	270.9	257.8	284.0
77.5°	214.1	205.3	192.2	179.1	174.8
80°	139.8	135.4	131.1	126.7	122.3
82.5°	83.0	83.0	83.0	83.0	83.0
85°	43.7	48.1	52.4	56.8	61.2
87.5°	26.2	26.2	30.6	35.0	39.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)