

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: P563453

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-80-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563453  
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-LD4-3STD-35-UNV-80-96-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

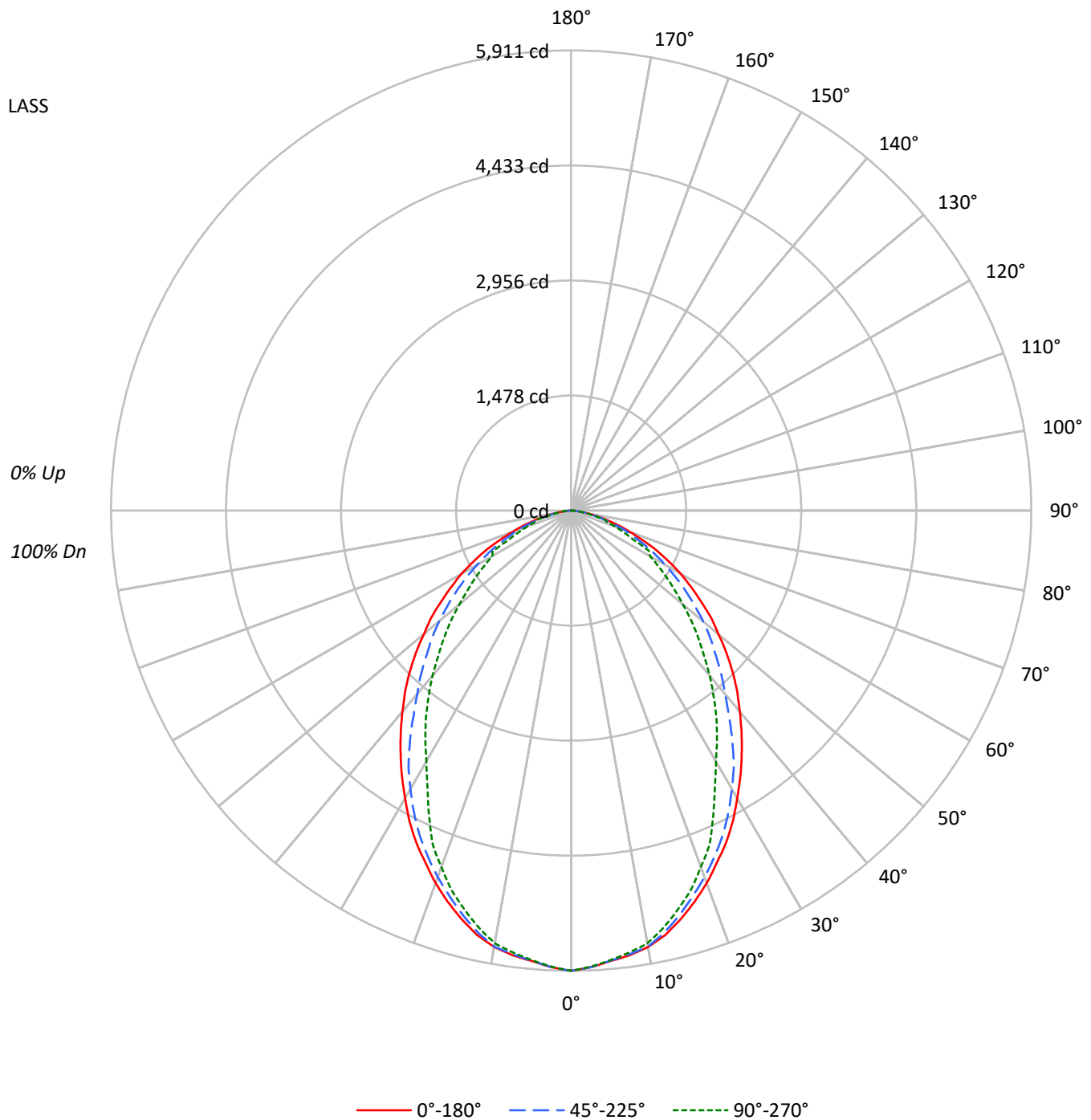
Lumens per Lamp: N/A  
Luminaire Lumens: 11605.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P563453

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-80-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P563453

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-80-96-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	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°	7954	7954	7954
5°	7846	7836	7827
10°	7778	7768	7712
15°	7568	7492	7387
20°	7290	7173	6977
25°	6990	6838	6412
30°	6625	6413	5776
35°	6275	5927	5343
40°	5918	5401	4861
45°	5579	4994	4395
50°	5164	4635	3920
55°	4777	4200	3511
60°	4377	3751	3145
65°	3851	3285	2785
70°	3172	2877	2366
75°	2522	2203	2309
80°	1695	1588	1483
85°	1054	1266	1477

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5579 cd/sqm



TEST NUMBER: P563453

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-80-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	550.3	4.7
10°-20°	1510.2	13.0
20°-30°	2090.7	18.0
30°-40°	2229.4	19.2
40°-50°	2033.8	17.5
50°-60°	1593.3	13.7
60°-70°	1038.5	8.9
70°-80°	460.1	4.0
80°-90°	98.8	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°	4151.2	35.8
0°-40°	6380.6	55.0
0°-60°	10007.7	86.2
0°-90°	11605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11605.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5911	5911	5911	5911	5911	
5°	5809	5802	5802	5795	5795	551
15°	5433	5433	5378	5324	5303	1527
25°	4709	4681	4606	4442	4319	2162
35°	3820	3793	3608	3335	3253	2388
45°	2932	2870	2624	2406	2310	2258
55°	2036	1975	1790	1579	1497	1827
65°	1210	1141	1032	1052	875	1192
75°	485	451	424	403	444	520
85°	68	75	82	89	96	95
90°	0	0	0	0	0	



TEST NUMBER: P563453

CATALOG NUMBER: FSR-24-4-LD4-3STD-35-UNV-80-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5911.4	5911.4	5911.4	5911.4	5911.4
2.5°	5870.4	5870.4	5870.4	5863.6	5863.6
5°	5808.9	5802.1	5802.1	5795.3	5795.3
7.5°	5761.1	5754.2	5747.4	5740.6	5726.9
10°	5692.7	5692.7	5685.9	5651.7	5644.9
12.5°	5583.4	5576.6	5549.2	5501.4	5487.7
15°	5433.1	5433.1	5378.4	5323.7	5303.2
17.5°	5269.0	5262.2	5193.9	5139.2	5111.9
20°	5091.3	5077.7	5009.3	4920.5	4872.7
22.5°	4893.2	4893.2	4811.2	4695.0	4647.1
25°	4708.6	4681.3	4606.1	4442.1	4319.1
27.5°	4496.8	4455.8	4373.8	4141.4	3997.9
30°	4264.4	4243.9	4127.8	3827.1	3717.7
32.5°	4045.7	4011.6	3888.6	3574.2	3485.4
35°	3820.2	3792.9	3608.4	3335.0	3253.0
37.5°	3594.7	3560.5	3328.2	3109.5	3007.0
40°	3369.2	3328.2	3075.3	2877.1	2767.8
42.5°	3157.3	3102.6	2856.6	2644.8	2521.8
45°	2931.8	2870.3	2624.3	2405.6	2309.9
47.5°	2706.3	2651.6	2426.1	2200.6	2091.2
50°	2467.1	2419.2	2214.2	1988.7	1872.5
52.5°	2268.9	2193.7	1995.5	1770.0	1674.3
55°	2036.5	1975.0	1790.5	1578.7	1496.7
57.5°	1824.7	1763.2	1592.3	1394.1	1325.8
60°	1626.5	1537.7	1394.1	1223.3	1168.6
62.5°	1407.8	1339.5	1216.5	1072.9	1141.3
65°	1209.6	1141.3	1031.9	1052.4	874.8
67.5°	990.9	956.8	861.1	765.4	738.1
70°	806.4	765.4	731.2	628.7	601.4
72.5°	642.4	601.4	553.6	498.9	478.4
75°	485.2	451.0	423.7	403.2	444.2
77.5°	334.9	321.2	300.7	280.2	273.4
80°	218.7	211.9	205.0	198.2	191.4
82.5°	129.8	129.8	129.8	129.8	129.8
85°	68.3	75.2	82.0	88.8	95.7
87.5°	41.0	41.0	47.8	54.7	61.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)