

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: P563053

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563053  
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-LD4-2STD-50-UNV-93-96-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

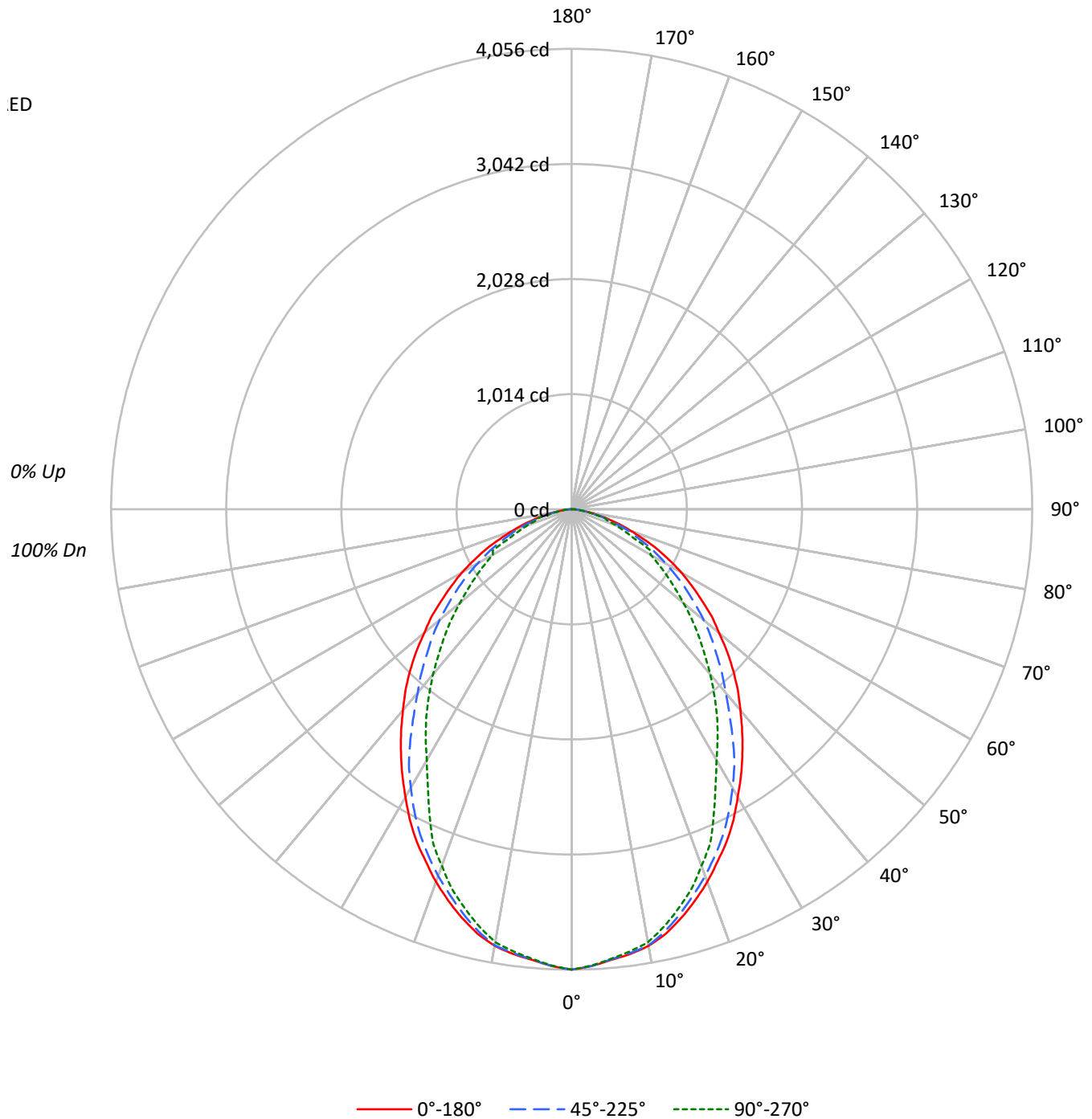
Lumens per Lamp: N/A  
Luminaire Lumens: 7962.0 lumens  
Efficiency: N/A  
Efficacy: 119.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5457	5457	5457
5°	5383	5376	5370
10°	5336	5330	5291
15°	5192	5140	5068
20°	5002	4921	4787
25°	4796	4692	4399
30°	4546	4400	3963
35°	4305	4066	3666
40°	4060	3706	3335
45°	3828	3426	3016
50°	3543	3180	2689
55°	3278	2882	2409
60°	3003	2574	2158
65°	2642	2254	1911
70°	2177	1974	1623
75°	1731	1511	1585
80°	1162	1090	1017
85°	724	869	1013

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3828 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	377.5	4.7
10°-20°	1036.1	13.0
20°-30°	1434.4	18.0
30°-40°	1529.5	19.2
40°-50°	1395.4	17.5
50°-60°	1093.2	13.7
60°-70°	712.5	8.9
70°-80°	315.7	4.0
80°-90°	67.8	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°	2848.1	35.8
0°-40°	4377.6	55.0
0°-60°	6866.1	86.2
0°-90°	7962.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7962.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4056	4056	4056	4056	4056	
5°	3985	3981	3981	3976	3976	378
15°	3728	3728	3690	3652	3638	1048
25°	3230	3212	3160	3048	2963	1483
35°	2621	2602	2476	2288	2232	1639
45°	2012	1969	1800	1650	1585	1549
55°	1397	1355	1228	1083	1027	1253
65°	830	783	708	722	600	818
75°	333	310	291	277	305	357
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4055.7	4055.7	4055.7	4055.7	4055.7
2.5°	4027.6	4027.6	4027.6	4022.9	4022.9
5°	3985.4	3980.7	3980.7	3976.0	3976.0
7.5°	3952.6	3947.9	3943.2	3938.5	3929.1
10°	3905.7	3905.7	3901.0	3877.6	3872.9
12.5°	3830.7	3826.0	3807.2	3774.4	3765.0
15°	3727.5	3727.5	3690.0	3652.5	3638.4
17.5°	3615.0	3610.3	3563.4	3525.9	3507.2
20°	3493.1	3483.7	3436.8	3375.9	3343.1
22.5°	3357.1	3357.1	3300.9	3221.1	3188.3
25°	3230.5	3211.8	3160.2	3047.7	2963.3
27.5°	3085.2	3057.0	3000.8	2841.4	2742.9
30°	2925.8	2911.7	2832.0	2625.7	2550.7
32.5°	2775.7	2752.3	2667.9	2452.2	2391.2
35°	2621.0	2602.2	2475.6	2288.1	2231.8
37.5°	2466.3	2442.8	2283.4	2133.4	2063.0
40°	2311.5	2283.4	2109.9	1973.9	1898.9
42.5°	2166.2	2128.7	1959.9	1814.5	1730.1
45°	2011.5	1969.3	1800.5	1650.4	1584.8
47.5°	1856.7	1819.2	1664.5	1509.8	1434.7
50°	1692.6	1659.8	1519.1	1364.4	1284.7
52.5°	1556.7	1505.1	1369.1	1214.4	1148.7
55°	1397.2	1355.0	1228.4	1083.1	1026.8
57.5°	1251.9	1209.7	1092.5	956.5	909.6
60°	1115.9	1055.0	956.5	839.3	801.8
62.5°	965.9	919.0	834.6	736.1	783.0
65°	829.9	783.0	708.0	722.1	600.2
67.5°	679.9	656.4	590.8	525.1	506.4
70°	553.3	525.1	501.7	431.4	412.6
72.5°	440.7	412.6	379.8	342.3	328.2
75°	332.9	309.5	290.7	276.6	304.8
77.5°	229.7	220.4	206.3	192.2	187.5
80°	150.0	145.4	140.7	136.0	131.3
82.5°	89.1	89.1	89.1	89.1	89.1
85°	46.9	51.6	56.3	61.0	65.6
87.5°	28.1	28.1	32.8	37.5	42.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)