

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: P563055

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563055  
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-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

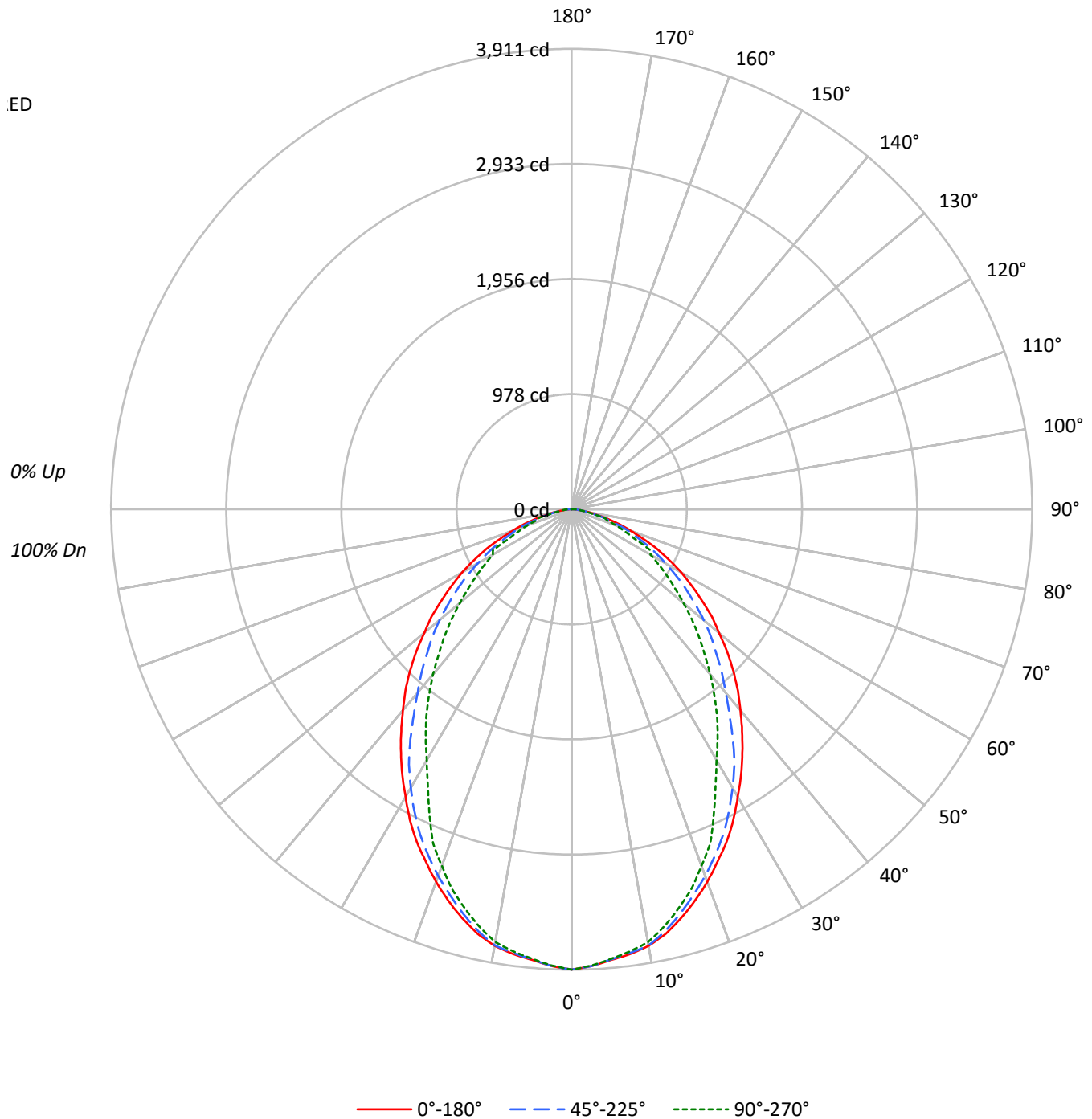
Lumens per Lamp: N/A  
Luminaire Lumens: 7677.0 lumens  
Efficiency: N/A  
Efficacy: 115.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5262	5262	5262
5°	5190	5184	5178
10°	5145	5139	5102
15°	5006	4956	4887
20°	4823	4745	4615
25°	4624	4524	4242
30°	4383	4242	3821
35°	4151	3921	3535
40°	3915	3573	3216
45°	3690	3303	2908
50°	3416	3066	2593
55°	3160	2779	2323
60°	2895	2482	2080
65°	2548	2174	1842
70°	2099	1903	1565
75°	1669	1457	1528
80°	1121	1051	981
85°	698	838	977

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3690 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	364.0	4.7
10°-20°	999.0	13.0
20°-30°	1383.1	18.0
30°-40°	1474.8	19.2
40°-50°	1345.4	17.5
50°-60°	1054.0	13.7
60°-70°	687.0	8.9
70°-80°	304.4	4.0
80°-90°	65.3	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°	2746.1	35.8
0°-40°	4220.9	55.0
0°-60°	6620.4	86.2
0°-90°	7677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7677.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3911	3911	3911	3911	3911	
5°	3843	3838	3838	3834	3834	365
15°	3594	3594	3558	3522	3508	1010
25°	3115	3097	3047	2939	2857	1430
35°	2527	2509	2387	2206	2152	1580
45°	1940	1899	1736	1591	1528	1494
55°	1347	1306	1184	1044	990	1208
65°	800	755	683	696	579	789
75°	321	298	280	267	294	344
85°	45	50	54	59	63	63
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3910.6	3910.6	3910.6	3910.6	3910.6
2.5°	3883.4	3883.4	3883.4	3878.9	3878.9
5°	3842.7	3838.2	3838.2	3833.7	3833.7
7.5°	3811.1	3806.6	3802.1	3797.5	3788.5
10°	3765.9	3765.9	3761.4	3738.8	3734.2
12.5°	3693.6	3689.0	3671.0	3639.3	3630.3
15°	3594.1	3594.1	3557.9	3521.8	3508.2
17.5°	3485.6	3481.1	3435.9	3399.7	3381.6
20°	3368.1	3359.0	3313.8	3255.0	3223.4
22.5°	3237.0	3237.0	3182.7	3105.8	3074.2
25°	3114.9	3096.8	3047.1	2938.6	2857.2
27.5°	2974.7	2947.6	2893.4	2739.7	2644.7
30°	2821.0	2807.5	2730.6	2531.7	2459.4
32.5°	2676.4	2653.8	2572.4	2364.4	2305.6
35°	2527.2	2509.1	2387.0	2206.2	2151.9
37.5°	2378.0	2355.4	2201.7	2057.0	1989.2
40°	2228.8	2201.7	2034.4	1903.3	1831.0
42.5°	2088.6	2052.5	1889.7	1749.6	1668.2
45°	1939.5	1898.8	1736.0	1591.3	1528.1
47.5°	1790.3	1754.1	1604.9	1455.7	1383.4
50°	1632.0	1600.4	1464.8	1315.6	1238.7
52.5°	1500.9	1451.2	1320.1	1170.9	1107.6
55°	1347.2	1306.5	1184.5	1044.3	990.1
57.5°	1207.1	1166.4	1053.4	922.3	877.1
60°	1076.0	1017.2	922.3	809.2	773.1
62.5°	931.3	886.1	804.7	709.8	755.0
65°	800.2	755.0	682.7	696.2	578.7
67.5°	655.5	632.9	569.6	506.3	488.3
70°	533.5	506.3	483.7	415.9	397.8
72.5°	425.0	397.8	366.2	330.0	316.5
75°	321.0	298.4	280.3	266.7	293.9
77.5°	221.5	212.5	198.9	185.4	180.8
80°	144.7	140.1	135.6	131.1	126.6
82.5°	85.9	85.9	85.9	85.9	85.9
85°	45.2	49.7	54.3	58.8	63.3
87.5°	27.1	27.1	31.6	36.2	40.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)