

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: P562991

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562991  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

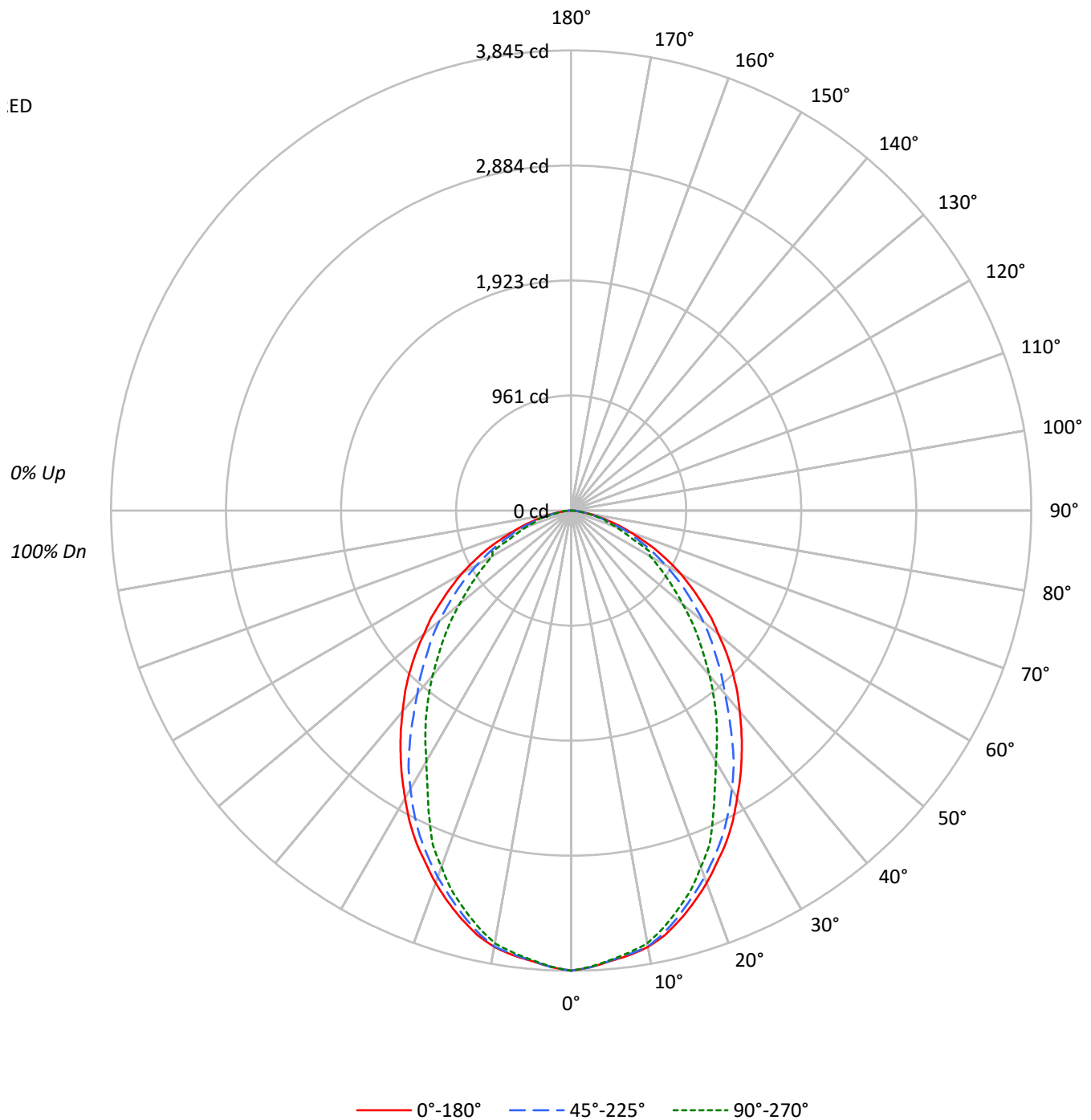
Lumens per Lamp: N/A  
Luminaire Lumens: 7548.0 lumens  
Efficiency: N/A  
Efficacy: 113.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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				
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°	5173	5173	5173
5°	5103	5097	5091
10°	5059	5053	5016
15°	4922	4873	4805
20°	4742	4665	4538
25°	4547	4448	4170
30°	4309	4171	3757
35°	4081	3855	3475
40°	3849	3513	3162
45°	3628	3248	2859
50°	3359	3015	2549
55°	3107	2732	2283
60°	2847	2440	2045
65°	2505	2137	1811
70°	2063	1871	1539
75°	1641	1433	1502
80°	1102	1033	965
85°	685	823	960

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3628 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	357.9	4.7
10°-20°	982.2	13.0
20°-30°	1359.8	18.0
30°-40°	1450.0	19.2
40°-50°	1322.8	17.5
50°-60°	1036.3	13.7
60°-70°	675.4	8.9
70°-80°	299.2	4.0
80°-90°	64.3	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°	2700.0	35.8
0°-40°	4150.0	55.0
0°-60°	6509.1	86.2
0°-90°	7548.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7548.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3845	3845	3845	3845	3845	
5°	3778	3774	3774	3769	3769	359
15°	3534	3534	3498	3463	3449	993
25°	3062	3045	2996	2889	2809	1406
35°	2485	2467	2347	2169	2116	1553
45°	1907	1867	1707	1565	1502	1469
55°	1325	1285	1165	1027	973	1188
65°	787	742	671	684	569	775
75°	316	293	276	262	289	338
85°	44	49	53	58	62	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3844.9	3844.9	3844.9	3844.9	3844.9
2.5°	3818.2	3818.2	3818.2	3813.7	3813.7
5°	3778.2	3773.7	3773.7	3769.3	3769.3
7.5°	3747.1	3742.6	3738.2	3733.7	3724.8
10°	3702.6	3702.6	3698.2	3675.9	3671.5
12.5°	3631.5	3627.0	3609.3	3578.2	3569.3
15°	3533.7	3533.7	3498.1	3462.6	3449.3
17.5°	3427.0	3422.6	3378.1	3342.6	3324.8
20°	3311.5	3302.6	3258.1	3200.3	3169.2
22.5°	3182.6	3182.6	3129.2	3053.7	3022.5
25°	3062.5	3044.8	2995.9	2889.2	2809.2
27.5°	2924.8	2898.1	2844.7	2693.6	2600.3
30°	2773.6	2760.3	2684.7	2489.2	2418.0
32.5°	2631.4	2609.2	2529.2	2324.7	2266.9
35°	2484.7	2466.9	2346.9	2169.1	2115.8
37.5°	2338.0	2315.8	2164.7	2022.4	1955.8
40°	2191.3	2164.7	2000.2	1871.3	1800.2
42.5°	2053.6	2018.0	1858.0	1720.2	1640.2
45°	1906.9	1866.9	1706.8	1564.6	1502.4
47.5°	1760.2	1724.6	1577.9	1431.3	1360.1
50°	1604.6	1573.5	1440.2	1293.5	1217.9
52.5°	1475.7	1426.8	1297.9	1151.2	1089.0
55°	1324.6	1284.6	1164.6	1026.8	973.4
57.5°	1186.8	1146.8	1035.7	906.8	862.3
60°	1057.9	1000.1	906.8	795.6	760.1
62.5°	915.7	871.2	791.2	697.9	742.3
65°	786.7	742.3	671.2	684.5	568.9
67.5°	644.5	622.3	560.1	497.8	480.1
70°	524.5	497.8	475.6	408.9	391.2
72.5°	417.8	391.2	360.0	324.5	311.1
75°	315.6	293.4	275.6	262.2	288.9
77.5°	217.8	208.9	195.6	182.2	177.8
80°	142.2	137.8	133.3	128.9	124.5
82.5°	84.5	84.5	84.5	84.5	84.5
85°	44.4	48.9	53.3	57.8	62.2
87.5°	26.7	26.7	31.1	35.6	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)