

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: P563373

Luminaire Tested: FSR-24-4-LD4-3LO-40-UNV-93-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563373  
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-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

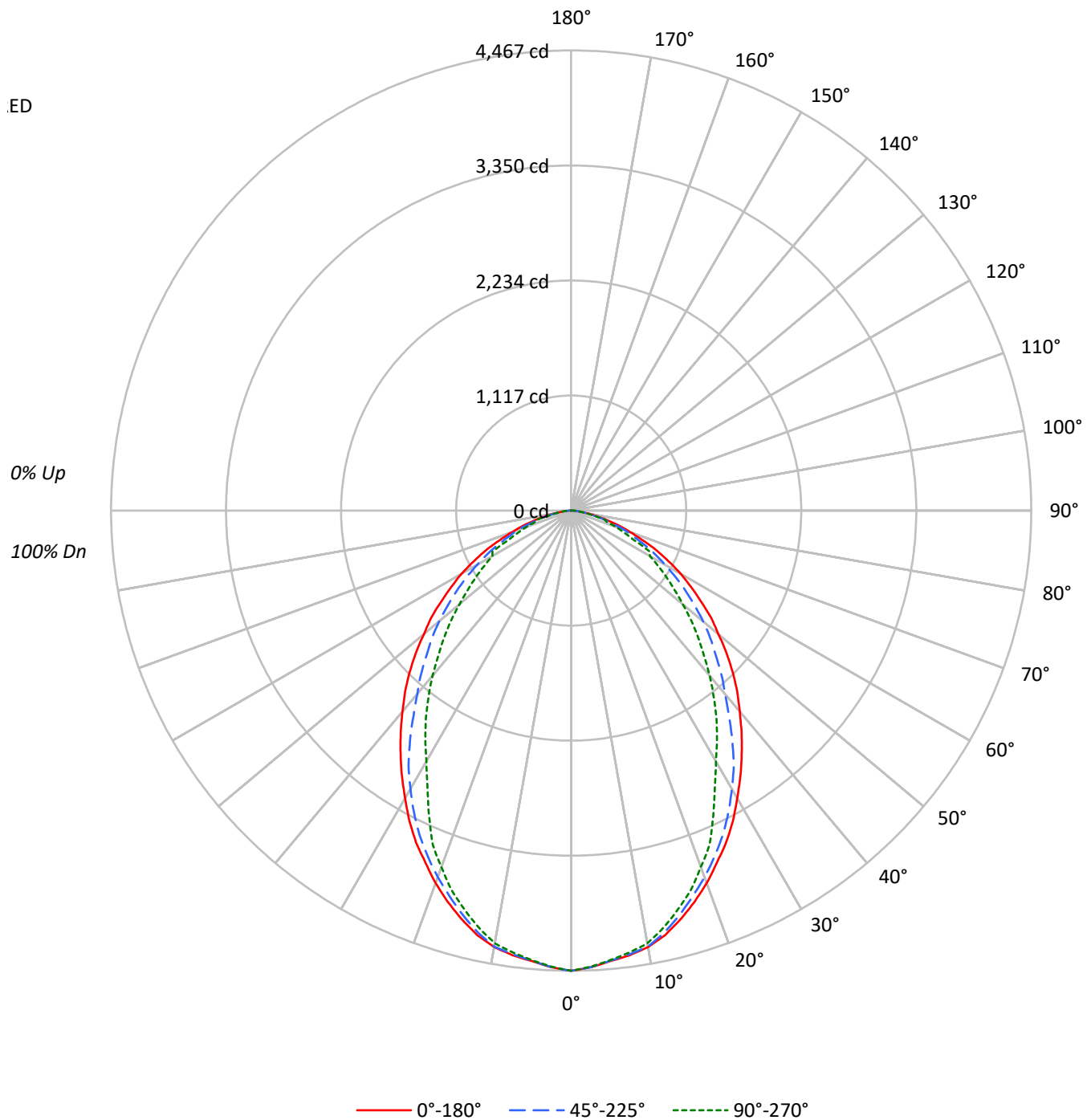
Lumens per Lamp: N/A  
Luminaire Lumens: 8770.0 lumens  
Efficiency: N/A  
Efficacy: 124.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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											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°	6011	6011	6011
5°	5929	5922	5915
10°	5878	5871	5828
15°	5719	5662	5583
20°	5509	5420	5272
25°	5283	5168	4846
30°	5007	4846	4365
35°	4742	4479	4038
40°	4472	4082	3674
45°	4216	3774	3322
50°	3903	3503	2962
55°	3610	3174	2653
60°	3308	2835	2376
65°	2910	2483	2105
70°	2397	2174	1788
75°	1906	1665	1745
80°	1281	1200	1120
85°	797	957	1116

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4216 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	415.8	4.7
10°-20°	1141.3	13.0
20°-30°	1580.0	18.0
30°-40°	1684.7	19.2
40°-50°	1537.0	17.5
50°-60°	1204.1	13.7
60°-70°	784.8	8.9
70°-80°	347.7	4.0
80°-90°	74.6	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°	3137.1	35.8
0°-40°	4821.8	55.0
0°-60°	7562.9	86.2
0°-90°	8770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8770.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4467	4467	4467	4467	4467	
5°	4390	4385	4385	4380	4380	417
15°	4106	4106	4064	4023	4008	1154
25°	3558	3538	3481	3357	3264	1634
35°	2887	2866	2727	2520	2458	1805
45°	2216	2169	1983	1818	1746	1707
55°	1539	1492	1353	1193	1131	1380
65°	914	862	780	795	661	901
75°	367	341	320	305	336	393
85°	52	57	62	67	72	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4467.3	4467.3	4467.3	4467.3	4467.3
2.5°	4436.3	4436.3	4436.3	4431.2	4431.2
5°	4389.9	4384.7	4384.7	4379.5	4379.5
7.5°	4353.7	4348.5	4343.4	4338.2	4327.9
10°	4302.1	4302.1	4296.9	4271.1	4265.9
12.5°	4219.4	4214.3	4193.6	4157.4	4147.1
15°	4105.8	4105.8	4064.5	4023.2	4007.7
17.5°	3981.9	3976.7	3925.0	3883.7	3863.1
20°	3847.6	3837.2	3785.6	3718.5	3682.3
22.5°	3697.8	3697.8	3635.8	3548.0	3511.9
25°	3558.4	3537.7	3480.9	3356.9	3264.0
27.5°	3398.3	3367.3	3305.3	3129.7	3021.3
30°	3222.7	3207.2	3119.4	2892.1	2809.5
32.5°	3057.4	3031.6	2938.6	2701.1	2633.9
35°	2887.0	2866.3	2726.9	2520.3	2458.3
37.5°	2716.5	2690.7	2515.1	2349.9	2272.4
40°	2546.1	2515.1	2324.0	2174.3	2091.6
42.5°	2386.0	2344.7	2158.8	1998.7	1905.7
45°	2215.6	2169.1	1983.2	1817.9	1745.6
47.5°	2045.2	2003.8	1833.4	1663.0	1580.3
50°	1864.4	1828.2	1673.3	1502.9	1415.1
52.5°	1714.6	1657.8	1508.0	1337.6	1265.3
55°	1539.0	1492.5	1353.1	1193.0	1131.0
57.5°	1378.9	1332.4	1203.3	1053.6	1001.9
60°	1229.2	1162.0	1053.6	924.5	883.1
62.5°	1063.9	1012.2	919.3	810.8	862.5
65°	914.1	862.5	779.8	795.3	661.1
67.5°	748.9	723.0	650.7	578.4	557.8
70°	609.4	578.4	552.6	475.1	454.5
72.5°	485.5	454.5	418.3	377.0	361.5
75°	366.7	340.9	320.2	304.7	335.7
77.5°	253.1	242.7	227.2	211.7	206.6
80°	165.3	160.1	154.9	149.8	144.6
82.5°	98.1	98.1	98.1	98.1	98.1
85°	51.6	56.8	62.0	67.1	72.3
87.5°	31.0	31.0	36.2	41.3	46.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)