

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: P563427

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-93-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563427  
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-50-UNV-93-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

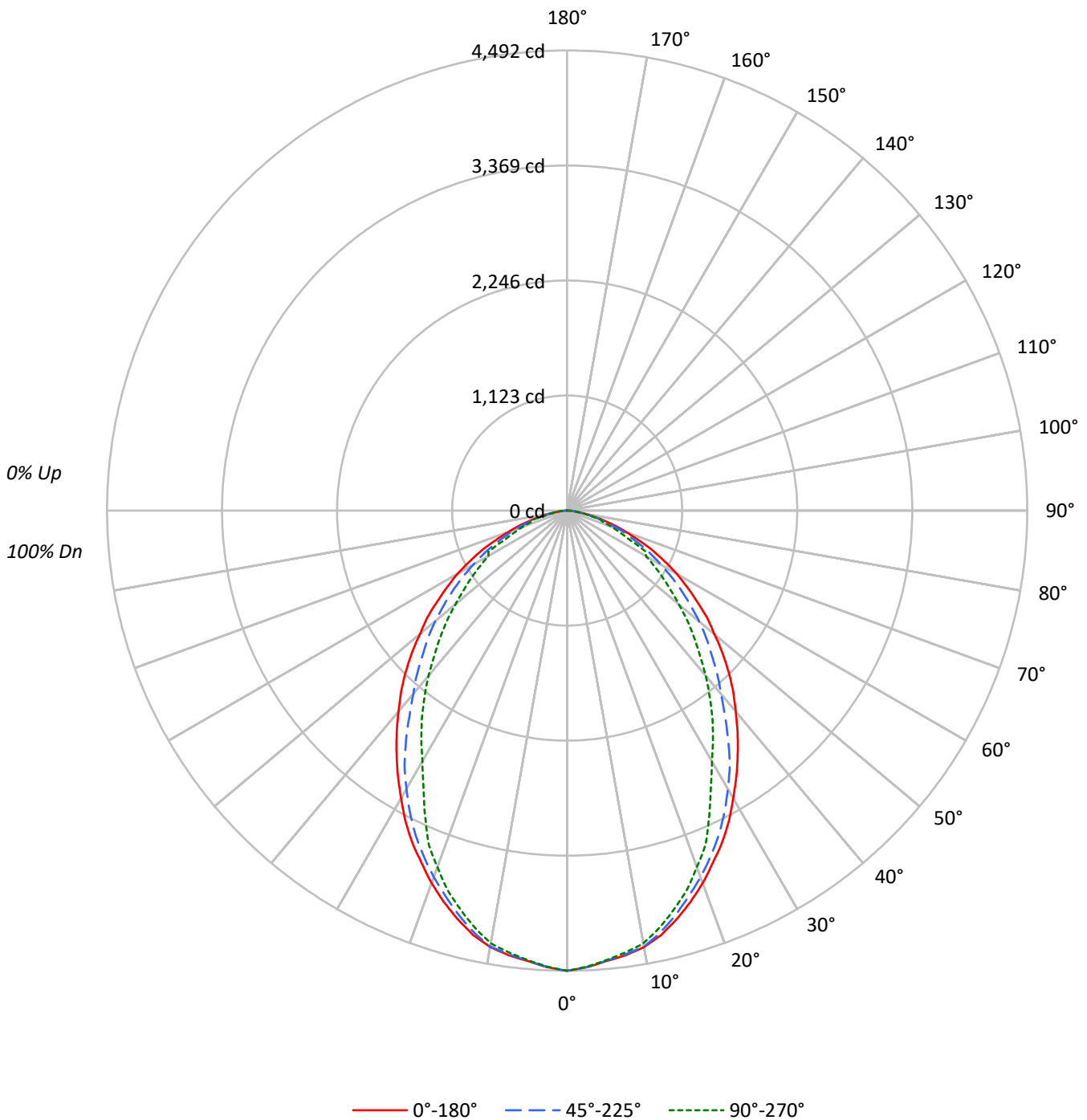
Lumens per Lamp: N/A  
Luminaire Lumens: 8819.0 lumens  
Efficiency: N/A  
Efficacy: 125.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6044	6044	6044
5°	5962	5955	5948
10°	5911	5903	5861
15°	5751	5693	5614
20°	5540	5451	5302
25°	5312	5196	4873
30°	5035	4873	4389
35°	4768	4504	4061
40°	4497	4105	3694
45°	4239	3795	3340
50°	3924	3522	2979
55°	3630	3192	2668
60°	3326	2851	2390
65°	2926	2497	2117
70°	2411	2186	1798
75°	1917	1674	1755
80°	1288	1207	1127
85°	801	962	1122

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4239 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	418.2	4.7
10°-20°	1147.6	13.0
20°-30°	1588.8	18.0
30°-40°	1694.1	19.2
40°-50°	1545.6	17.5
50°-60°	1210.8	13.7
60°-70°	789.2	8.9
70°-80°	349.6	4.0
80°-90°	75.1	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°	3154.6	35.8
0°-40°	4848.8	55.0
0°-60°	7605.2	86.2
0°-90°	8819.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8819.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4492	4492	4492	4492	4492	
5°	4414	4409	4409	4404	4404	419
15°	4129	4129	4087	4046	4030	1161
25°	3578	3558	3500	3376	3282	1643
35°	2903	2882	2742	2534	2472	1815
45°	2228	2181	1994	1828	1755	1716
55°	1548	1501	1361	1200	1137	1388
65°	919	867	784	800	665	906
75°	369	343	322	306	338	395
85°	52	57	62	68	73	72
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4492.3	4492.3	4492.3	4492.3	4492.3
2.5°	4461.1	4461.1	4461.1	4455.9	4455.9
5°	4414.4	4409.2	4409.2	4404.0	4404.0
7.5°	4378.0	4372.8	4367.6	4362.4	4352.1
10°	4326.1	4326.1	4320.9	4294.9	4289.7
12.5°	4243.0	4237.8	4217.0	4180.7	4170.3
15°	4128.7	4128.7	4087.2	4045.6	4030.1
17.5°	4004.1	3998.9	3947.0	3905.4	3884.7
20°	3869.1	3858.7	3806.8	3739.2	3702.9
22.5°	3718.5	3718.5	3656.1	3567.9	3531.5
25°	3578.2	3557.5	3500.3	3375.7	3282.2
27.5°	3417.2	3386.1	3323.8	3147.2	3038.1
30°	3240.7	3225.1	3136.8	2908.3	2825.2
32.5°	3074.5	3048.5	2955.0	2716.1	2648.6
35°	2903.1	2882.3	2742.1	2534.4	2472.1
37.5°	2731.7	2705.8	2529.2	2363.0	2285.1
40°	2560.3	2529.2	2337.0	2186.4	2103.3
42.5°	2399.3	2357.8	2170.8	2009.8	1916.4
45°	2228.0	2181.2	1994.3	1828.1	1755.4
47.5°	2056.6	2015.0	1843.7	1672.3	1589.2
50°	1874.8	1838.5	1682.7	1511.3	1423.0
52.5°	1724.2	1667.1	1516.5	1345.1	1272.4
55°	1547.6	1500.9	1360.7	1199.7	1137.4
57.5°	1386.6	1339.9	1210.1	1059.5	1007.5
60°	1236.0	1168.5	1059.5	929.6	888.1
62.5°	1069.8	1017.9	924.4	815.4	867.3
65°	919.2	867.3	784.2	799.8	664.8
67.5°	753.0	727.1	654.4	581.7	560.9
70°	612.8	581.7	555.7	477.8	457.0
72.5°	488.2	457.0	420.7	379.1	363.5
75°	368.7	342.8	322.0	306.4	337.6
77.5°	254.5	244.1	228.5	212.9	207.7
80°	166.2	161.0	155.8	150.6	145.4
82.5°	98.7	98.7	98.7	98.7	98.7
85°	51.9	57.1	62.3	67.5	72.7
87.5°	31.2	31.2	36.4	41.5	46.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)