

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: P563439

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563439  
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-93-97-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**

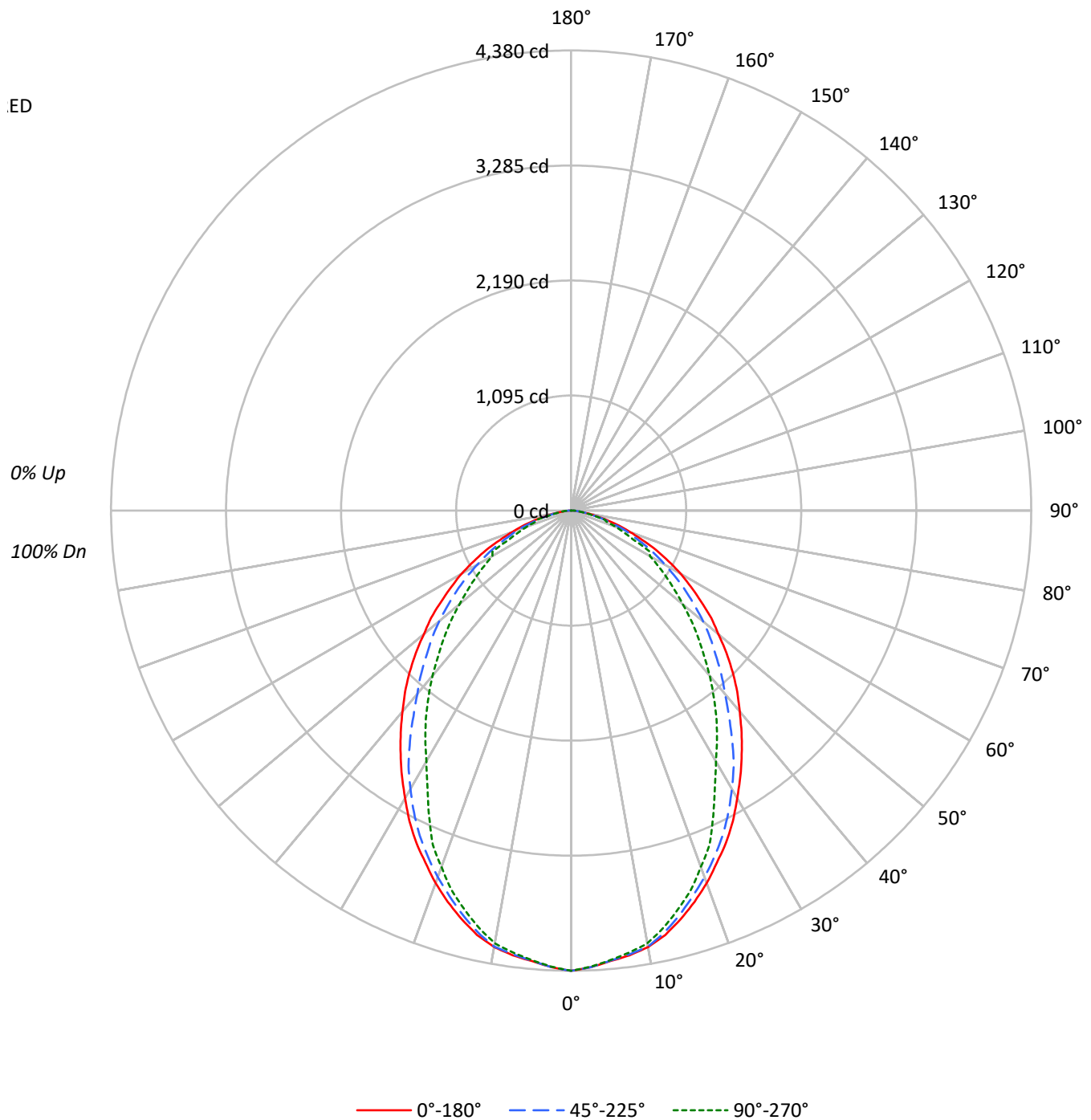
Lumens per Lamp: N/A  
Luminaire Lumens: 8599.0 lumens  
Efficiency: N/A  
Efficacy: 122.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5894	5894	5894
5°	5814	5807	5800
10°	5763	5756	5715
15°	5608	5551	5474
20°	5402	5315	5170
25°	5180	5067	4751
30°	4909	4752	4280
35°	4650	4392	3959
40°	4385	4002	3602
45°	4134	3700	3257
50°	3826	3434	2904
55°	3540	3112	2601
60°	3243	2780	2330
65°	2854	2434	2064
70°	2351	2131	1753
75°	1869	1632	1711
80°	1255	1177	1099
85°	781	939	1095

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4134 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	407.7	4.7
10°-20°	1119.0	13.0
20°-30°	1549.2	18.0
30°-40°	1651.9	19.2
40°-50°	1507.0	17.5
50°-60°	1180.6	13.7
60°-70°	769.5	8.9
70°-80°	340.9	4.0
80°-90°	73.2	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°	3075.9	35.8
0°-40°	4727.8	55.0
0°-60°	7415.4	86.2
0°-90°	8599.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8599.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4380	4380	4380	4380	4380	
5°	4304	4299	4299	4294	4294	409
15°	4026	4026	3985	3945	3930	1132
25°	3489	3469	3413	3292	3200	1602
35°	2831	2810	2674	2471	2410	1770
45°	2172	2127	1944	1782	1712	1673
55°	1509	1463	1327	1170	1109	1353
65°	896	846	765	780	648	883
75°	360	334	314	299	329	385
85°	51	56	61	66	71	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4380.2	4380.2	4380.2	4380.2	4380.2
2.5°	4349.8	4349.8	4349.8	4344.8	4344.8
5°	4304.3	4299.2	4299.2	4294.1	4294.1
7.5°	4268.8	4263.7	4258.7	4253.6	4243.5
10°	4218.2	4218.2	4213.1	4187.8	4182.7
12.5°	4137.2	4132.1	4111.8	4076.4	4066.3
15°	4025.7	4025.7	3985.2	3944.7	3929.5
17.5°	3904.2	3899.2	3848.5	3808.0	3787.7
20°	3772.6	3762.4	3711.8	3646.0	3610.5
22.5°	3625.7	3625.7	3564.9	3478.9	3443.4
25°	3489.0	3468.7	3413.0	3291.5	3200.3
27.5°	3332.0	3301.6	3240.9	3068.7	2962.3
30°	3159.8	3144.6	3058.6	2835.7	2754.7
32.5°	2997.8	2972.5	2881.3	2648.4	2582.6
35°	2830.7	2810.4	2673.7	2471.2	2410.4
37.5°	2663.6	2638.3	2466.1	2304.0	2228.1
40°	2496.5	2466.1	2278.7	2131.9	2050.9
42.5°	2339.5	2299.0	2116.7	1959.7	1868.6
45°	2172.4	2126.8	1944.5	1782.5	1711.6
47.5°	2005.3	1964.8	1797.7	1630.6	1549.5
50°	1828.0	1792.6	1640.7	1473.6	1387.5
52.5°	1681.2	1625.5	1478.6	1311.5	1240.6
55°	1509.0	1463.4	1326.7	1169.7	1109.0
57.5°	1352.0	1306.5	1179.9	1033.0	982.4
60°	1205.2	1139.4	1033.0	906.4	865.9
62.5°	1043.1	992.5	901.4	795.0	845.7
65°	896.3	845.7	764.6	779.8	648.2
67.5°	734.3	708.9	638.0	567.1	546.9
70°	597.5	567.1	541.8	465.9	445.6
72.5°	476.0	445.6	410.2	369.7	354.5
75°	359.5	334.2	314.0	298.8	329.1
77.5°	248.1	238.0	222.8	207.6	202.6
80°	162.0	157.0	151.9	146.9	141.8
82.5°	96.2	96.2	96.2	96.2	96.2
85°	50.6	55.7	60.8	65.8	70.9
87.5°	30.4	30.4	35.4	40.5	45.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)