

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: P589873

Luminaire Tested: FSR-24-2-LD4-1HI-35-UNV-93-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589873  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1HI-35-UNV-93-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

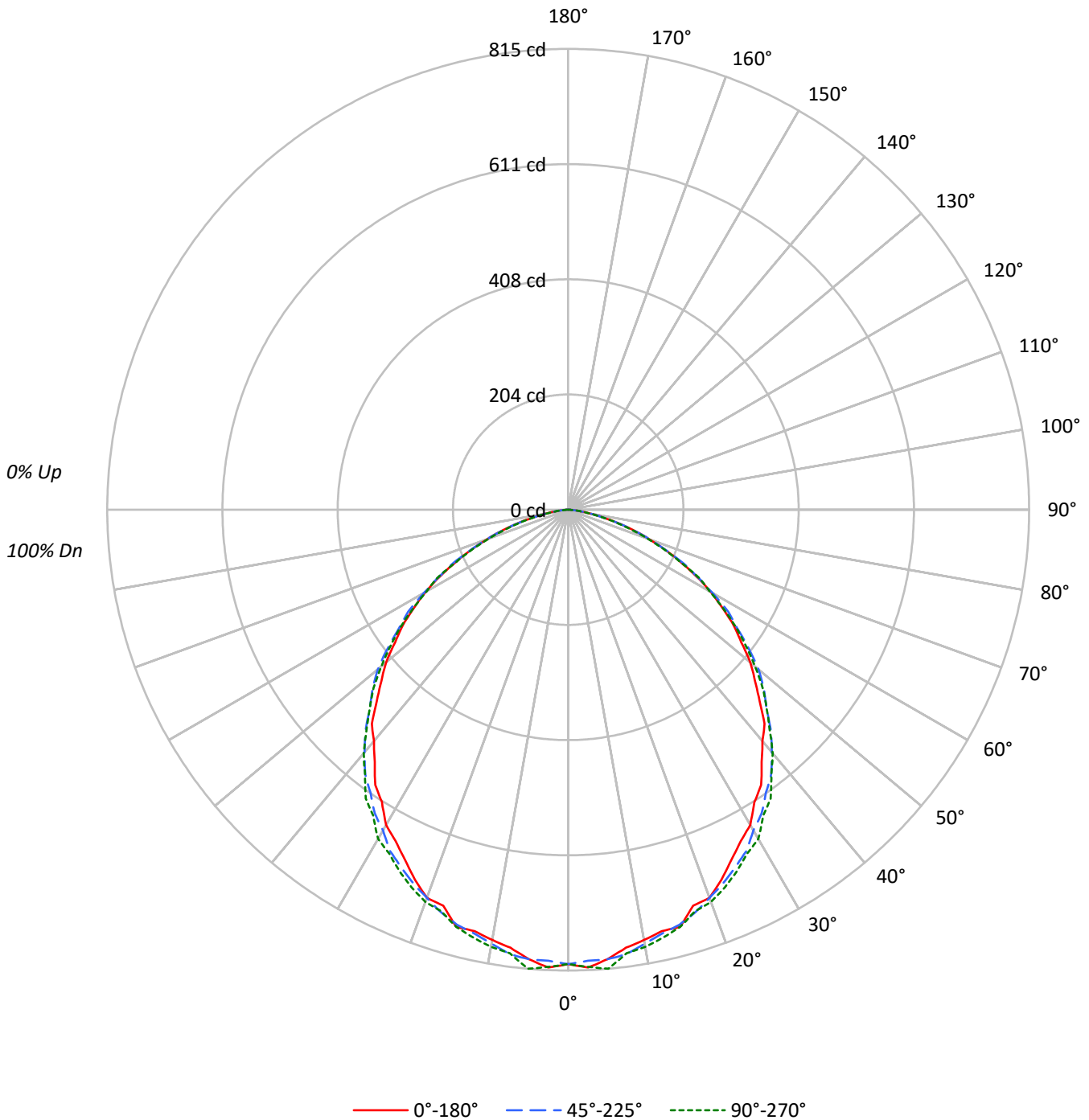
Lumens per Lamp: N/A  
Luminaire Lumens: 2025.0 lumens  
Efficiency: N/A  
Efficacy: 93.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2162	2162	2162
5°	2155	2156	2201
10°	2111	2130	2145
15°	2128	2116	2128
20°	2092	2092	2114
25°	2028	2072	2095
30°	2000	2035	2089
35°	1953	2004	2049
40°	1877	1967	1976
45°	1820	1885	1888
50°	1760	1840	1804
55°	1677	1710	1697
60°	1568	1584	1555
65°	1398	1434	1389
70°	1200	1204	1171
75°	950	948	912
80°	637	618	595
85°	346	343	321

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1933 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.6	3.7
10°-20°	214.2	10.6
20°-30°	320.9	15.8
30°-40°	380.4	18.8
40°-50°	381.1	18.8
50°-60°	323.4	16.0
60°-70°	218.1	10.8
70°-80°	95.8	4.7
80°-90°	15.6	0.8
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°	610.7	30.2
0°-40°	991.0	48.9
0°-60°	1695.5	83.7
0°-90°	2025.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2025.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	804	804	804	804	804	
5°	798	796	798	796	815	75
15°	764	755	760	764	764	213
25°	683	687	698	707	706	316
35°	594	596	610	624	624	369
45°	478	487	495	508	496	370
55°	358	355	364	362	362	318
65°	220	217	225	217	218	218
75°	91	90	91	85	88	98
85°	11	11	11	11	10	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	803.5	803.5	803.5	803.5	803.5
2.5°	810.4	804.3	798.6	805.2	809.3
5°	797.8	795.9	798.1	795.7	814.9
7.5°	781.4	788.5	792.7	790.1	791.2
10°	772.7	770.2	779.4	785.8	784.9
12.5°	763.3	767.1	767.6	774.5	775.1
15°	763.8	755.0	759.7	763.6	763.9
17.5°	734.2	743.7	746.9	756.0	744.8
20°	730.5	723.6	730.5	739.8	738.3
22.5°	708.2	700.5	715.4	723.6	723.1
25°	682.9	686.7	697.9	707.0	705.5
27.5°	660.7	665.1	681.1	693.6	685.5
30°	643.6	641.4	654.9	666.1	672.3
32.5°	613.0	620.9	636.7	647.8	641.8
35°	594.4	596.2	610.0	624.1	623.7
37.5°	562.0	570.2	589.6	593.5	589.9
40°	534.3	542.5	560.0	564.2	562.5
42.5°	513.8	515.3	530.3	535.2	527.4
45°	478.2	487.2	495.3	508.0	496.0
47.5°	448.0	452.1	469.5	473.0	466.6
50°	420.5	421.9	439.4	435.2	431.0
52.5°	385.9	392.0	401.9	401.1	396.2
55°	357.5	355.1	364.4	362.0	361.8
57.5°	323.4	327.5	335.2	331.2	324.9
60°	291.4	291.5	294.3	289.9	289.0
62.5°	255.8	257.1	257.7	252.2	261.1
65°	219.6	216.7	225.2	216.6	218.1
67.5°	186.3	187.8	186.9	181.5	183.6
70°	152.5	154.4	153.0	146.9	148.8
72.5°	121.6	119.3	120.8	113.1	116.6
75°	91.4	89.5	91.2	84.8	87.7
77.5°	62.2	63.7	62.7	59.2	61.2
80°	41.1	39.9	39.9	38.0	38.4
82.5°	24.0	22.8	22.5	21.9	22.8
85°	11.2	10.9	11.1	10.8	10.4
87.5°	4.0	4.1	4.1	3.9	3.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)