

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: P562913

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-93-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562913  
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-35-UNV-93-84-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

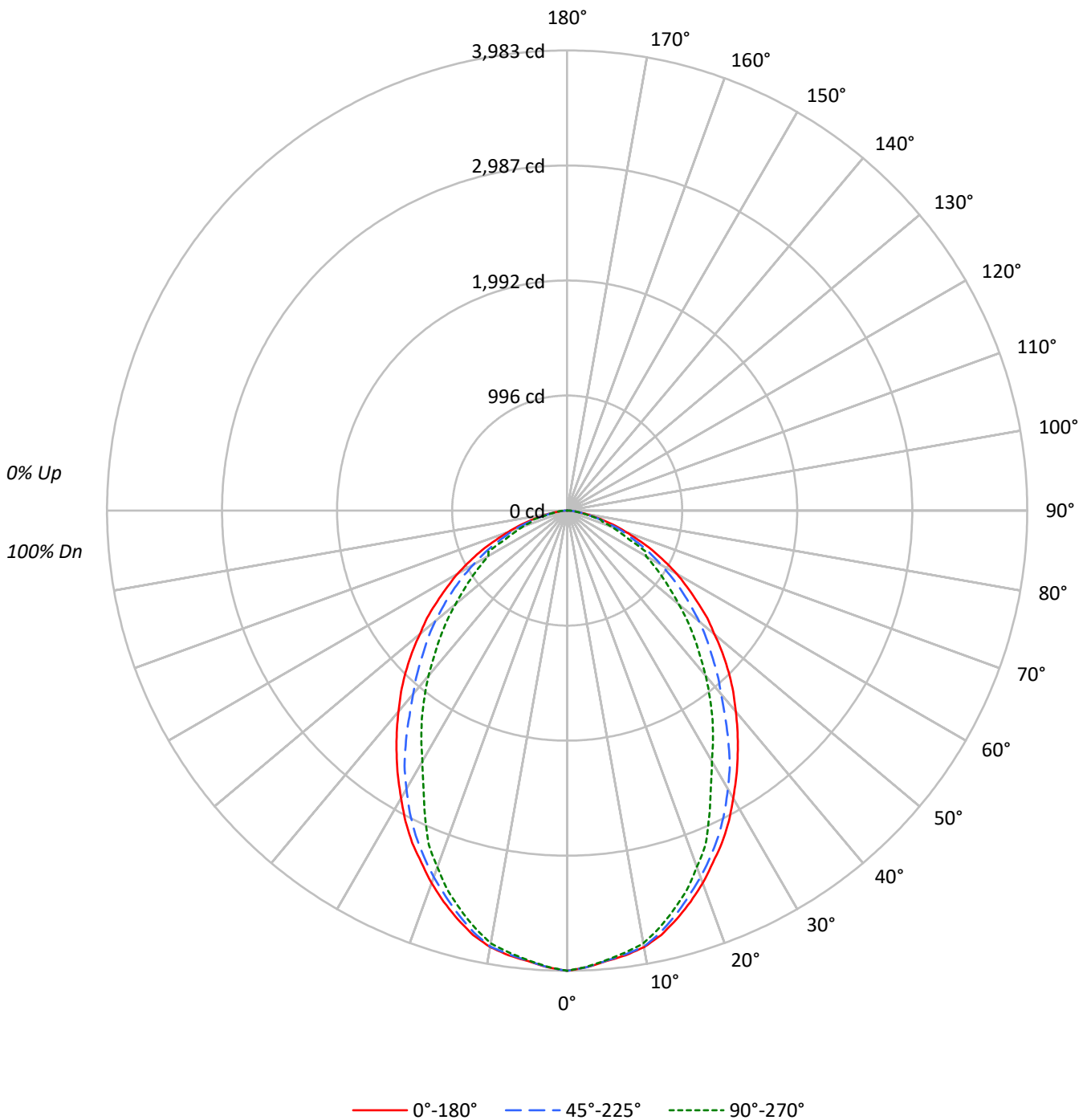
Lumens per Lamp: N/A  
Luminaire Lumens: 7820.0 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	5360	5360	5360
5°	5287	5281	5274
10°	5241	5235	5197
15°	5100	5048	4978
20°	4912	4833	4701
25°	4710	4608	4321
30°	4465	4321	3892
35°	4228	3994	3600
40°	3988	3640	3276
45°	3759	3365	2962
50°	3480	3123	2641
55°	3219	2830	2366
60°	2949	2528	2119
65°	2595	2214	1877
70°	2138	1938	1594
75°	1700	1484	1556
80°	1142	1071	999
85°	712	854	996

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3759 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	370.8	4.7
10°-20°	1017.6	13.0
20°-30°	1408.8	18.0
30°-40°	1502.2	19.2
40°-50°	1370.5	17.5
50°-60°	1073.7	13.7
60°-70°	699.8	8.9
70°-80°	310.0	4.0
80°-90°	66.6	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°	2797.3	35.8
0°-40°	4299.5	55.0
0°-60°	6743.7	86.2
0°-90°	7820.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7820.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3983	3983	3983	3983	3983	
5°	3914	3910	3910	3905	3905	372
15°	3661	3661	3624	3587	3574	1029
25°	3173	3154	3104	2993	2910	1457
35°	2574	2556	2432	2247	2192	1609
45°	1976	1934	1768	1621	1556	1522
55°	1372	1331	1206	1064	1008	1231
65°	815	769	695	709	590	803
75°	327	304	286	272	299	350
85°	46	51	55	60	64	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3983.4	3983.4	3983.4	3983.4	3983.4
2.5°	3955.8	3955.8	3955.8	3951.2	3951.2
5°	3914.3	3909.7	3909.7	3905.1	3905.1
7.5°	3882.1	3877.5	3872.9	3868.3	3859.1
10°	3836.0	3836.0	3831.4	3808.4	3803.8
12.5°	3762.4	3757.8	3739.3	3707.1	3697.9
15°	3661.0	3661.0	3624.2	3587.4	3573.6
17.5°	3550.5	3545.9	3499.9	3463.0	3444.6
20°	3430.8	3421.6	3375.5	3315.7	3283.4
22.5°	3297.2	3297.2	3242.0	3163.7	3131.5
25°	3172.9	3154.5	3103.8	2993.3	2910.4
27.5°	3030.1	3002.5	2947.3	2790.7	2694.0
30°	2873.6	2859.8	2781.5	2578.9	2505.2
32.5°	2726.2	2703.2	2620.3	2408.5	2348.6
35°	2574.2	2555.8	2431.5	2247.3	2192.0
37.5°	2422.3	2399.3	2242.7	2095.3	2026.2
40°	2270.3	2242.7	2072.3	1938.7	1865.1
42.5°	2127.6	2090.7	1924.9	1782.2	1699.3
45°	1975.6	1934.1	1768.4	1621.0	1556.5
47.5°	1823.6	1786.8	1634.8	1482.8	1409.2
50°	1662.4	1630.2	1492.0	1340.1	1261.8
52.5°	1528.9	1478.2	1344.7	1192.7	1128.2
55°	1372.3	1330.9	1206.5	1063.8	1008.5
57.5°	1229.6	1188.1	1073.0	939.4	893.4
60°	1096.0	1036.1	939.4	824.3	787.5
62.5°	948.6	902.6	819.7	723.0	769.1
65°	815.1	769.1	695.4	709.2	589.5
67.5°	667.7	644.7	580.2	515.8	497.3
70°	543.4	515.8	492.7	423.7	405.2
72.5°	432.9	405.2	373.0	336.2	322.4
75°	327.0	303.9	285.5	271.7	299.3
77.5°	225.6	216.4	202.6	188.8	184.2
80°	147.4	142.8	138.2	133.5	128.9
82.5°	87.5	87.5	87.5	87.5	87.5
85°	46.1	50.7	55.3	59.9	64.5
87.5°	27.6	27.6	32.2	36.8	41.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)