

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: P590058

Luminaire Tested: FSR-24-2-LD4-1STD-35-UNV-82-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590058  
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-LD4-1STD-35-UNV-82-94-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

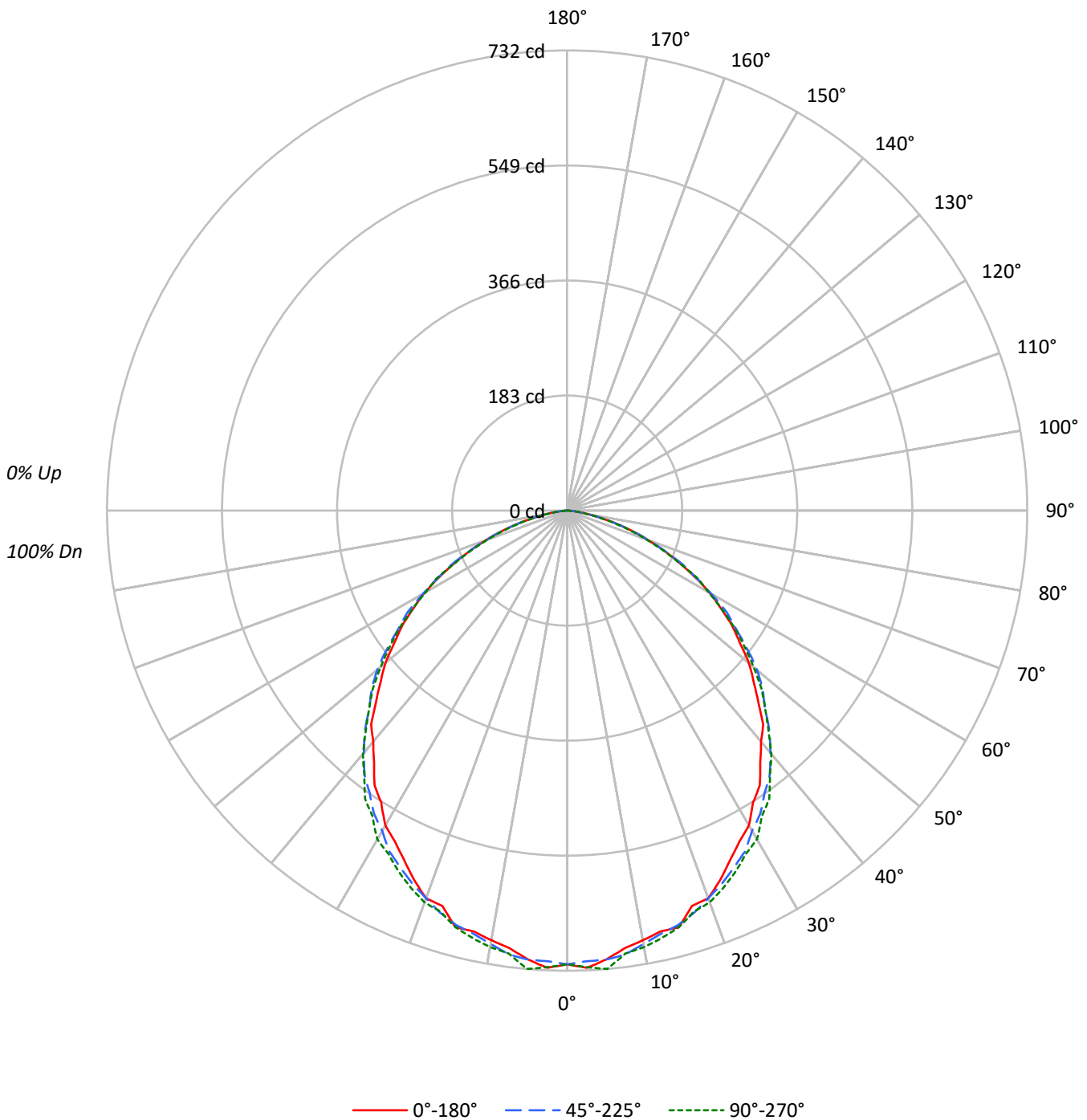
Lumens per Lamp: N/A  
Luminaire Lumens: 1819.0 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1942	1942	1942
5°	1936	1937	1977
10°	1897	1913	1927
15°	1911	1901	1912
20°	1879	1879	1899
25°	1821	1861	1882
30°	1796	1828	1876
35°	1754	1800	1840
40°	1686	1767	1775
45°	1635	1693	1695
50°	1581	1652	1621
55°	1506	1536	1525
60°	1409	1423	1397
65°	1256	1288	1247
70°	1078	1082	1051
75°	854	852	818
80°	572	556	535
85°	312	309	287

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1737 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.9	3.7
10°-20°	192.4	10.6
20°-30°	288.3	15.8
30°-40°	341.7	18.8
40°-50°	342.3	18.8
50°-60°	290.6	16.0
60°-70°	195.9	10.8
70°-80°	86.1	4.7
80°-90°	14.0	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°	548.6	30.2
0°-40°	890.2	48.9
0°-60°	1523.1	83.7
0°-90°	1819.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1819.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	722	722	722	722	722	
5°	717	715	717	715	732	68
15°	686	678	682	686	686	191
25°	613	617	627	635	634	284
35°	534	536	548	561	560	332
45°	430	438	445	456	446	332
55°	321	319	327	325	325	286
65°	197	195	202	195	196	196
75°	82	80	82	76	79	88
85°	10	10	10	10	9	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	721.7	721.7	721.7	721.7	721.7
2.5°	728.0	722.5	717.4	723.3	727.0
5°	716.6	714.9	716.9	714.7	732.0
7.5°	701.9	708.3	712.0	709.7	710.7
10°	694.1	691.8	700.1	705.9	705.1
12.5°	685.7	689.0	689.5	695.7	696.3
15°	686.1	678.2	682.4	685.9	686.2
17.5°	659.5	668.1	670.9	679.1	669.0
20°	656.2	650.0	656.2	664.5	663.2
22.5°	636.2	629.2	642.6	650.0	649.5
25°	613.4	616.8	626.9	635.1	633.8
27.5°	593.5	597.4	611.8	623.0	615.8
30°	578.1	576.2	588.3	598.4	603.9
32.5°	550.6	557.7	571.9	581.9	576.5
35°	534.0	535.5	547.9	560.6	560.2
37.5°	504.8	512.2	529.6	533.1	529.9
40°	479.9	487.3	503.0	506.8	505.3
42.5°	461.6	462.9	476.4	480.8	473.8
45°	429.6	437.6	444.9	456.3	445.5
47.5°	402.4	406.1	421.8	424.8	419.2
50°	377.7	379.0	394.7	390.9	387.2
52.5°	346.7	352.2	361.0	360.3	355.9
55°	321.1	319.0	327.4	325.1	325.0
57.5°	290.5	294.2	301.1	297.5	291.9
60°	261.8	261.9	264.4	260.4	259.6
62.5°	229.8	230.9	231.5	226.5	234.6
65°	197.3	194.7	202.3	194.6	195.9
67.5°	167.4	168.7	167.9	163.1	164.9
70°	137.0	138.7	137.5	132.0	133.6
72.5°	109.2	107.2	108.5	101.6	104.7
75°	82.1	80.4	81.9	76.1	78.7
77.5°	55.9	57.2	56.3	53.2	55.0
80°	36.9	35.9	35.9	34.1	34.5
82.5°	21.5	20.5	20.2	19.7	20.5
85°	10.1	9.8	10.0	9.7	9.3
87.5°	3.6	3.7	3.7	3.5	3.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)