

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: P590124

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-82-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590124  
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-50-UNV-82-97-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

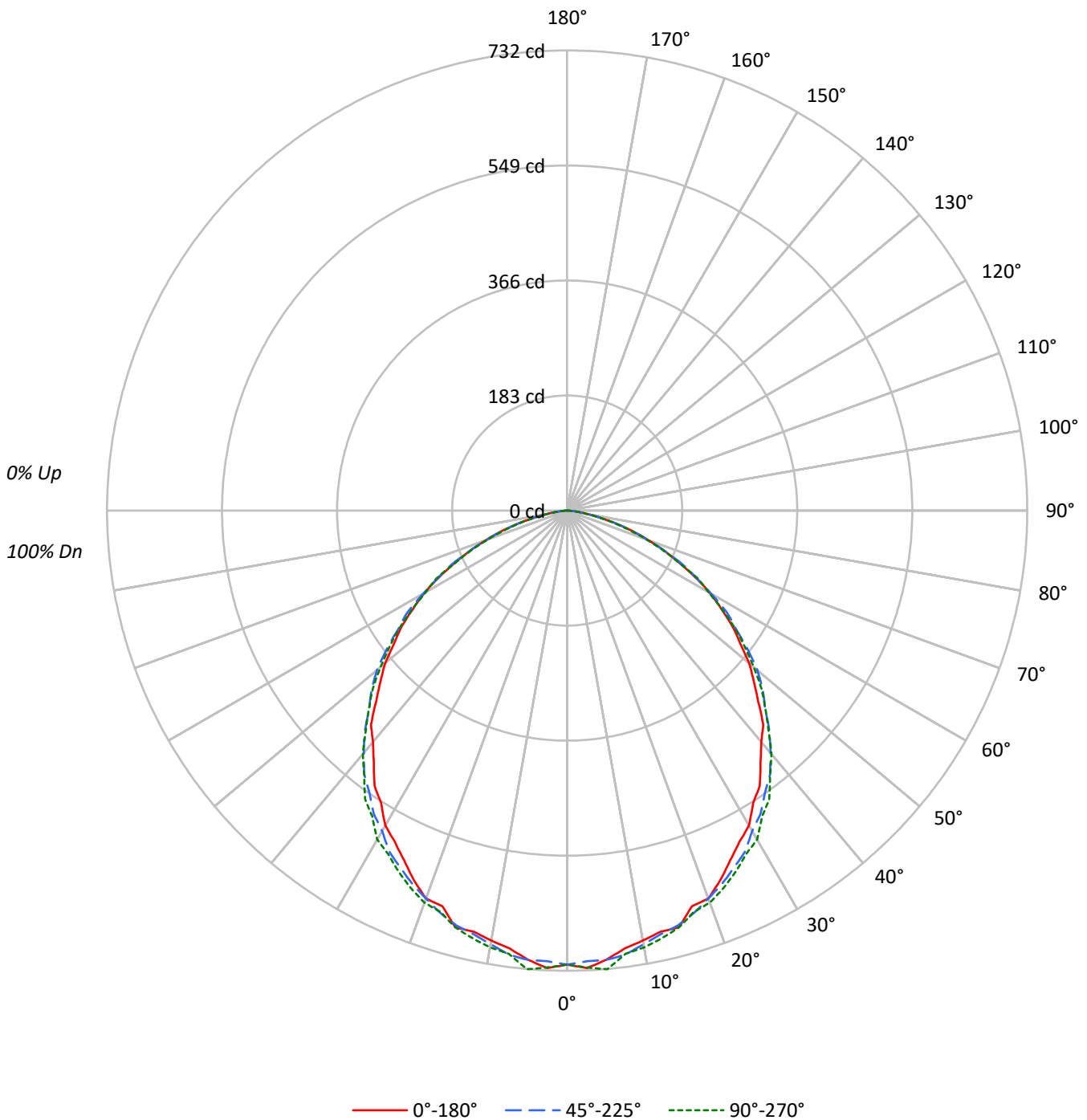
Lumens per Lamp: N/A  
Luminaire Lumens: 1820.0 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	1943	1943	1943
5°	1937	1938	1978
10°	1897	1914	1927
15°	1913	1902	1913
20°	1880	1880	1900
25°	1822	1862	1883
30°	1797	1829	1878
35°	1755	1801	1841
40°	1687	1768	1776
45°	1636	1694	1697
50°	1582	1654	1622
55°	1507	1536	1526
60°	1410	1424	1398
65°	1257	1289	1248
70°	1079	1082	1052
75°	854	853	819
80°	572	556	535
85°	312	309	287

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1738 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.9	3.7
10°-20°	192.5	10.6
20°-30°	288.4	15.8
30°-40°	341.8	18.8
40°-50°	342.5	18.8
50°-60°	290.7	16.0
60°-70°	196.0	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°	548.9	30.2
0°-40°	890.7	48.9
0°-60°	1523.9	83.7
0°-90°	1820.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1820.0	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	679	683	686	687	191
25°	614	617	627	635	634	284
35°	534	536	548	561	560	332
45°	430	438	445	457	446	332
55°	321	319	328	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°	722.1	722.1	722.1	722.1	722.1
2.5°	728.4	722.9	717.7	723.7	727.4
5°	717.0	715.3	717.3	715.1	732.4
7.5°	702.3	708.7	712.4	710.1	711.1
10°	694.4	692.2	700.5	706.3	705.4
12.5°	686.0	689.4	689.9	696.1	696.7
15°	686.5	678.6	682.8	686.3	686.6
17.5°	659.8	668.4	671.3	679.4	669.4
20°	656.6	650.3	656.6	664.9	663.6
22.5°	636.5	629.5	643.0	650.3	649.9
25°	613.8	617.1	627.2	635.4	634.1
27.5°	593.8	597.8	612.1	623.4	616.1
30°	578.4	576.5	588.6	598.7	604.3
32.5°	550.9	558.0	572.2	582.2	576.9
35°	534.3	535.8	548.2	560.9	560.5
37.5°	505.1	512.4	529.9	533.4	530.2
40°	480.2	487.5	503.3	507.1	505.5
42.5°	461.8	463.1	476.6	481.0	474.0
45°	429.8	437.8	445.1	456.6	445.8
47.5°	402.6	406.3	422.0	425.1	419.4
50°	377.9	379.2	395.0	391.1	387.4
52.5°	346.8	352.3	361.2	360.5	356.1
55°	321.3	319.2	327.5	325.3	325.2
57.5°	290.6	294.4	301.3	297.7	292.0
60°	261.9	262.0	264.5	260.5	259.8
62.5°	229.9	231.0	231.6	226.7	234.7
65°	197.4	194.8	202.4	194.7	196.0
67.5°	167.5	168.8	168.0	163.2	165.0
70°	137.1	138.7	137.5	132.0	133.7
72.5°	109.3	107.2	108.5	101.6	104.8
75°	82.1	80.5	82.0	76.2	78.8
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)