

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: P590037

Luminaire Tested: FSR-24-2-LD4-1STD-35-UNV-80-84-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590037  
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-80-84-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

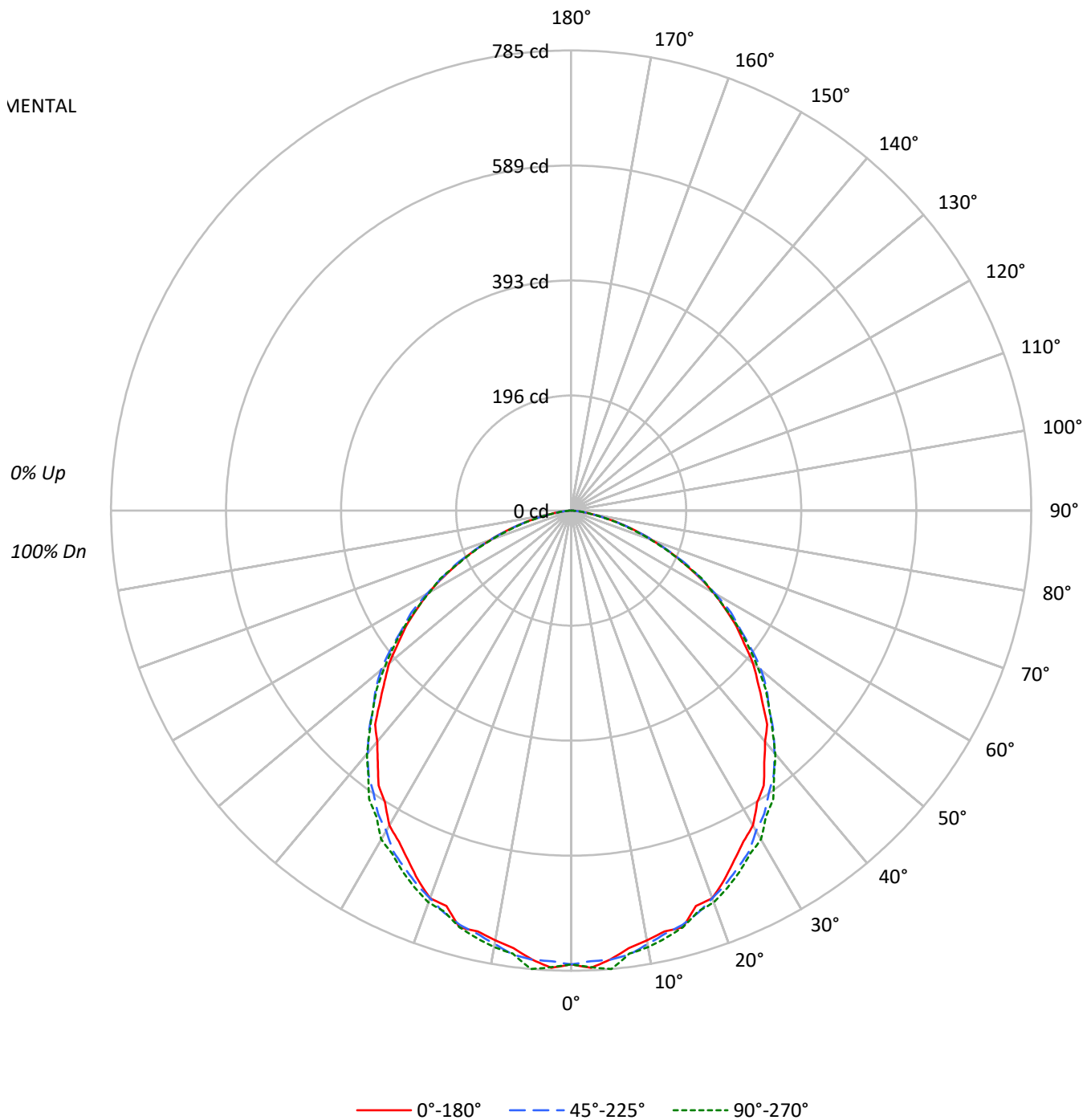
Lumens per Lamp: N/A  
Luminaire Lumens: 1951.0 lumens  
Efficiency: N/A  
Efficacy: 117.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86													86															
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73													73															
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62													62															
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53													53															
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46													46															
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41													41															
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36													36															
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32													32															
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29													29															
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26													26															

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

	0°	45°	90°
0°	2083	2083	2083
5°	2076	2077	2121
10°	2034	2052	2066
15°	2050	2039	2050
20°	2015	2015	2037
25°	1954	1996	2018
30°	1927	1961	2013
35°	1881	1931	1974
40°	1808	1895	1904
45°	1754	1816	1819
50°	1696	1773	1739
55°	1616	1647	1635
60°	1511	1526	1499
65°	1347	1382	1338
70°	1156	1160	1127
75°	916	914	879
80°	614	597	573
85°	333	330	309

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1863 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.8	3.7
10°-20°	206.4	10.6
20°-30°	309.2	15.8
30°-40°	366.4	18.8
40°-50°	367.1	18.8
50°-60°	311.6	16.0
60°-70°	210.1	10.8
70°-80°	92.3	4.7
80°-90°	15.0	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°	588.4	30.2
0°-40°	954.8	48.9
0°-60°	1633.6	83.7
0°-90°	1951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1951.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	774	774	774	774	774	
5°	769	767	769	767	785	72
15°	736	727	732	736	736	205
25°	658	662	672	681	680	304
35°	573	574	588	601	601	356
45°	461	469	477	490	478	356
55°	344	342	351	349	349	306
65°	212	209	217	209	210	210
75°	88	86	88	82	84	94
85°	11	10	11	10	10	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	774.1	774.1	774.1	774.1	774.1
2.5°	780.8	774.9	769.4	775.8	779.7
5°	768.6	766.8	768.9	766.6	785.1
7.5°	752.8	759.7	763.7	761.2	762.3
10°	744.4	742.0	750.9	757.1	756.2
12.5°	735.4	739.0	739.5	746.2	746.8
15°	735.9	727.4	731.9	735.7	736.0
17.5°	707.3	716.5	719.6	728.3	717.5
20°	703.8	697.1	703.8	712.7	711.3
22.5°	682.4	674.9	689.3	697.1	696.6
25°	658.0	661.6	672.4	681.2	679.8
27.5°	636.6	640.8	656.2	668.3	660.5
30°	620.1	618.0	631.0	641.8	647.8
32.5°	590.6	598.2	613.4	624.1	618.4
35°	572.7	574.4	587.7	601.3	600.9
37.5°	541.4	549.3	568.0	571.8	568.3
40°	514.7	522.6	539.5	543.6	541.9
42.5°	495.0	496.4	510.9	515.6	508.1
45°	460.8	469.4	477.2	489.5	477.9
47.5°	431.6	435.6	452.4	455.7	449.6
50°	405.1	406.5	423.4	419.3	415.3
52.5°	371.8	377.7	387.2	386.4	381.7
55°	344.4	342.1	351.1	348.7	348.6
57.5°	311.5	315.5	322.9	319.1	313.0
60°	280.8	280.9	283.6	279.3	278.5
62.5°	246.5	247.7	248.3	243.0	251.6
65°	211.6	208.8	217.0	208.7	210.1
67.5°	179.5	180.9	180.1	174.9	176.9
70°	146.9	148.7	147.4	141.5	143.3
72.5°	117.1	114.9	116.3	108.9	112.3
75°	88.1	86.3	87.9	81.7	84.5
77.5°	60.0	61.4	60.4	57.1	59.0
80°	39.6	38.5	38.5	36.6	37.0
82.5°	23.1	22.0	21.7	21.1	22.0
85°	10.8	10.5	10.7	10.4	10.0
87.5°	3.9	4.0	4.0	3.8	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)