

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: P590422

Luminaire Tested: FSR-24-2-LD4-3HI-35-UNV-80-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590422  
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-LD4-3HI-35-UNV-80-85-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

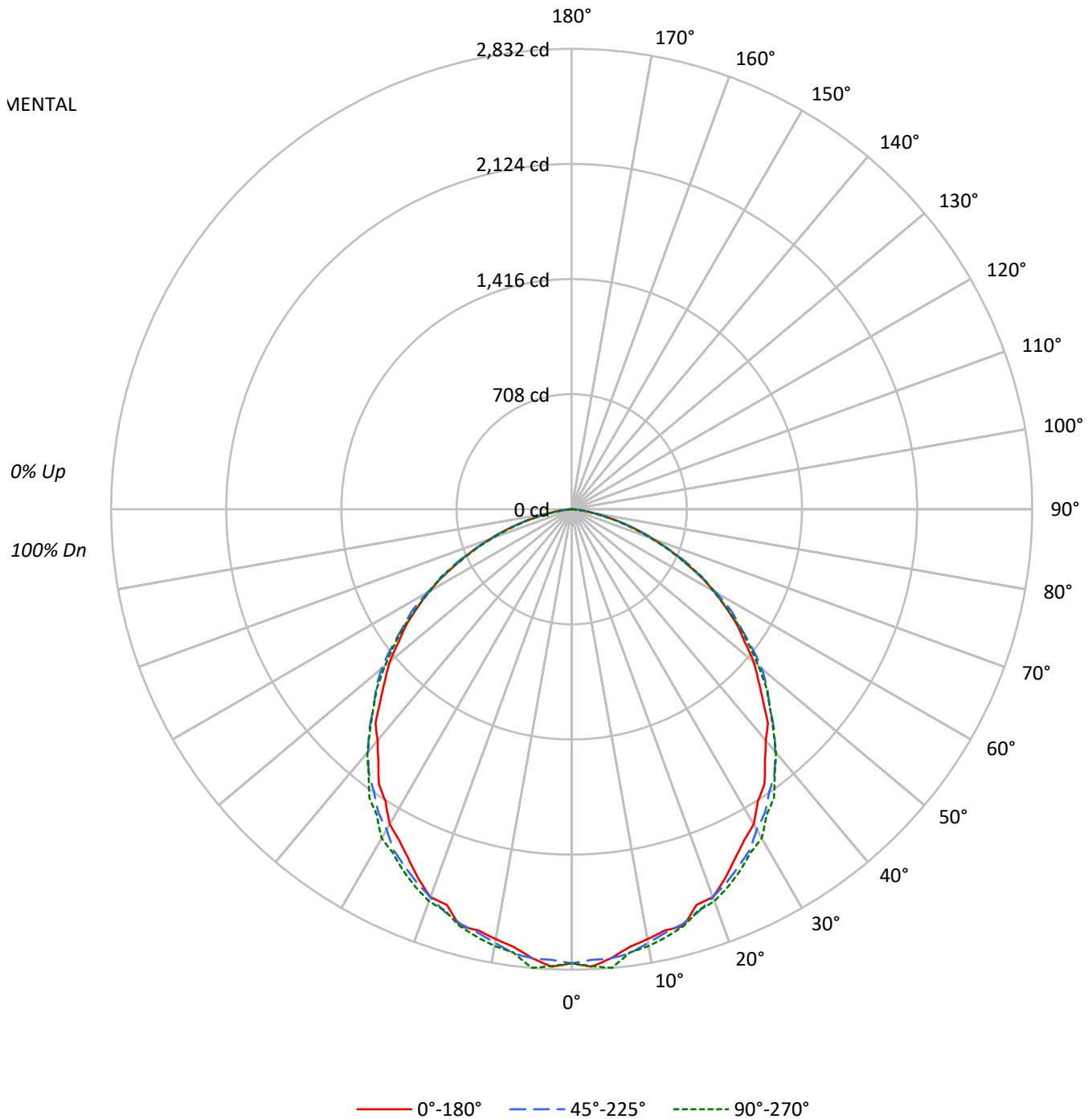
Lumens per Lamp: N/A  
Luminaire Lumens: 7037.0 lumens  
Efficiency: N/A  
Efficacy: 108.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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°	7513	7513	7513
5°	7489	7492	7649
10°	7337	7401	7453
15°	7395	7355	7396
20°	7270	7270	7347
25°	7046	7201	7280
30°	6950	7072	7260
35°	6786	6964	7120
40°	6522	6836	6867
45°	6325	6549	6559
50°	6117	6393	6271
55°	5828	5942	5899
60°	5450	5504	5406
65°	4860	4984	4825
70°	4169	4183	4068
75°	3302	3295	3167
80°	2213	2151	2067
85°	1201	1192	1115

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6718 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	262.6	3.7
10°-20°	744.4	10.6
20°-30°	1115.2	15.8
30°-40°	1321.7	18.8
40°-50°	1324.2	18.8
50°-60°	1124.0	16.0
60°-70°	757.8	10.8
70°-80°	333.0	4.7
80°-90°	54.1	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°	2122.2	30.2
0°-40°	3443.9	48.9
0°-60°	5892.1	83.7
0°-90°	7037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7037.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2792	2792	2792	2792	2792	
5°	2772	2766	2773	2765	2832	261
15°	2654	2624	2640	2654	2655	740
25°	2373	2386	2425	2457	2452	1097
35°	2066	2072	2120	2169	2167	1283
45°	1662	1693	1721	1765	1724	1286
55°	1242	1234	1266	1258	1257	1105
65°	763	753	783	753	758	759
75°	318	311	317	294	305	340
85°	39	38	39	38	36	56
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2792.1	2792.1	2792.1	2792.1	2792.1
2.5°	2816.3	2795.0	2775.2	2798.2	2812.3
5°	2772.3	2765.8	2773.4	2765.1	2831.8
7.5°	2715.3	2740.2	2754.6	2745.6	2749.6
10°	2685.0	2676.4	2708.5	2730.8	2727.6
12.5°	2652.6	2665.6	2667.4	2691.5	2693.7
15°	2654.4	2623.7	2640.0	2653.7	2654.8
17.5°	2551.3	2584.5	2595.6	2627.0	2588.1
20°	2538.7	2514.5	2538.7	2570.8	2565.7
22.5°	2461.2	2434.1	2486.0	2514.5	2512.7
25°	2373.2	2386.2	2425.1	2456.8	2451.8
27.5°	2296.1	2311.2	2366.7	2410.3	2382.2
30°	2236.6	2229.0	2275.9	2314.8	2336.4
32.5°	2130.2	2157.6	2212.4	2251.0	2230.4
35°	2065.7	2071.8	2119.8	2168.8	2167.4
37.5°	1952.9	1981.3	2048.7	2062.4	2049.8
40°	1856.6	1885.1	1946.0	1960.8	1954.7
42.5°	1785.6	1790.6	1842.9	1859.8	1832.8
45°	1661.9	1692.9	1721.0	1765.4	1723.6
47.5°	1556.7	1571.1	1631.6	1643.5	1621.5
50°	1461.1	1466.2	1527.1	1512.3	1497.9
52.5°	1341.1	1362.3	1396.6	1393.7	1376.8
55°	1242.3	1234.0	1266.5	1257.8	1257.4
57.5°	1123.7	1138.1	1164.8	1151.1	1129.1
60°	1012.7	1013.0	1022.7	1007.2	1004.4
62.5°	889.0	893.3	895.5	876.4	907.4
65°	763.2	753.1	782.7	752.7	757.8
67.5°	647.5	652.5	649.6	630.9	638.1
70°	529.9	536.4	531.7	510.5	517.0
72.5°	422.5	414.6	419.6	392.9	405.2
75°	317.6	311.1	316.9	294.5	304.6
77.5°	216.3	221.3	217.7	205.8	212.7
80°	142.8	138.8	138.8	131.9	133.4
82.5°	83.3	79.3	78.2	76.1	79.3
85°	38.9	37.9	38.6	37.5	36.1
87.5°	14.1	14.4	14.4	13.7	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)