

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: P590134

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

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590134  
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-LD4-2HI-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**

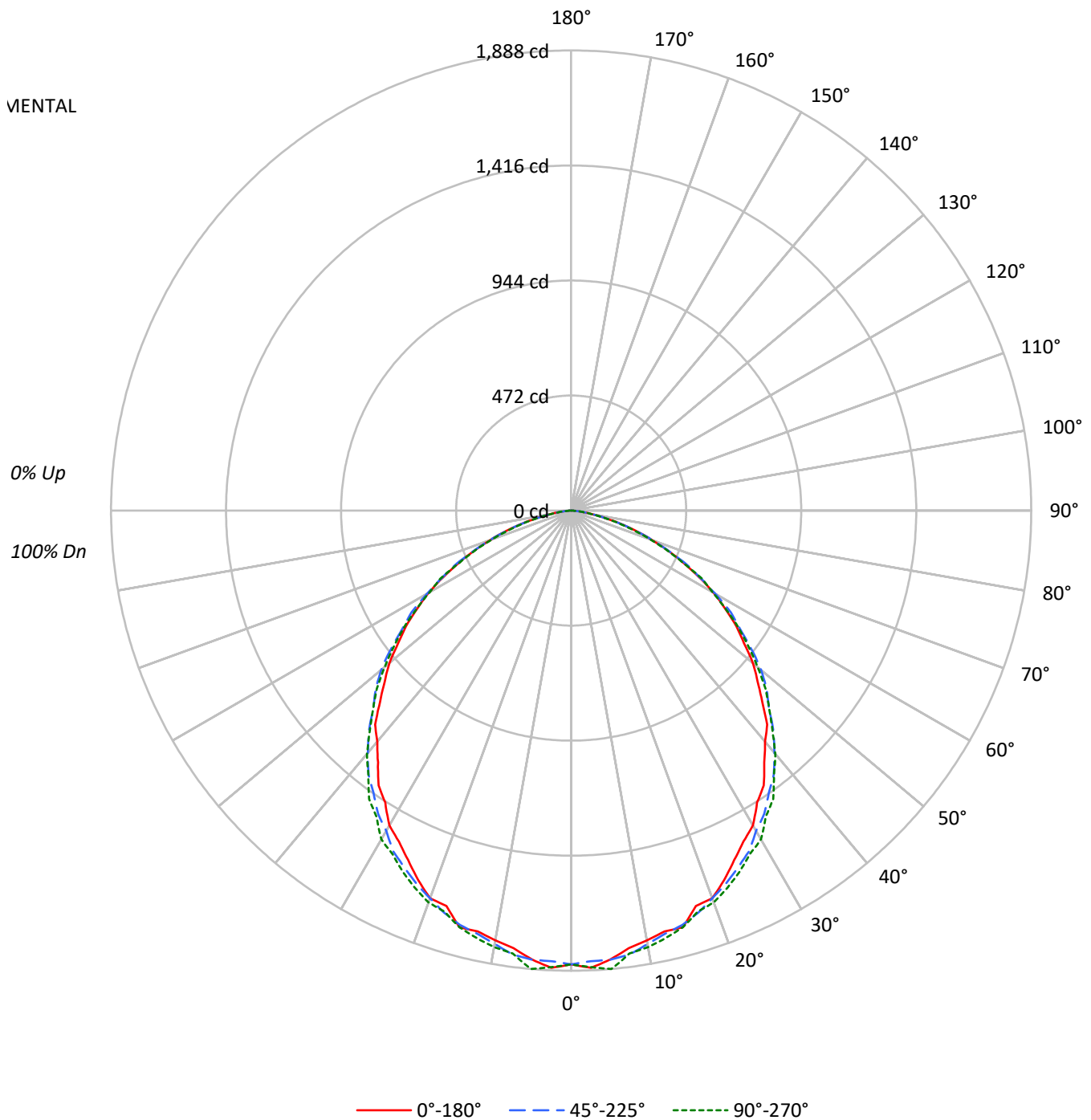
Lumens per Lamp: N/A  
Luminaire Lumens: 4692.0 lumens  
Efficiency: N/A  
Efficacy: 108.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
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										
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	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°	5010	5010	5010
5°	4993	4995	5100
10°	4892	4935	4969
15°	4930	4904	4931
20°	4847	4847	4899
25°	4698	4801	4854
30°	4634	4715	4841
35°	4525	4643	4747
40°	4349	4558	4578
45°	4217	4367	4373
50°	4078	4263	4181
55°	3886	3962	3933
60°	3634	3670	3604
65°	3240	3323	3217
70°	2780	2789	2712
75°	2202	2197	2112
80°	1475	1433	1378
85°	803	794	741

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4480 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.1	3.7
10°-20°	496.3	10.6
20°-30°	743.6	15.8
30°-40°	881.3	18.8
40°-50°	882.9	18.8
50°-60°	749.4	16.0
60°-70°	505.3	10.8
70°-80°	222.0	4.7
80°-90°	36.1	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°	1415.0	30.2
0°-40°	2296.3	48.9
0°-60°	3928.6	83.7
0°-90°	4692.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4692.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1862	1862	1862	1862	1862	
5°	1848	1844	1849	1844	1888	174
15°	1770	1749	1760	1769	1770	493
25°	1582	1591	1617	1638	1635	732
35°	1377	1381	1413	1446	1445	855
45°	1108	1129	1148	1177	1149	857
55°	828	823	844	839	838	737
65°	509	502	522	502	505	506
75°	212	207	211	196	203	227
85°	26	25	26	25	24	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1861.7	1861.7	1861.7	1861.7	1861.7
2.5°	1877.8	1863.6	1850.4	1865.8	1875.1
5°	1848.4	1844.1	1849.2	1843.6	1888.1
7.5°	1810.5	1827.1	1836.7	1830.7	1833.3
10°	1790.3	1784.5	1805.9	1820.8	1818.6
12.5°	1768.6	1777.3	1778.5	1794.6	1796.0
15°	1769.8	1749.4	1760.2	1769.4	1770.1
17.5°	1701.1	1723.2	1730.7	1751.6	1725.6
20°	1692.7	1676.6	1692.7	1714.1	1710.7
22.5°	1641.0	1623.0	1657.6	1676.6	1675.4
25°	1582.4	1591.0	1617.0	1638.1	1634.8
27.5°	1530.9	1541.0	1578.0	1607.1	1588.4
30°	1491.3	1486.2	1517.5	1543.4	1557.8
32.5°	1420.3	1438.6	1475.2	1500.9	1487.2
35°	1377.3	1381.4	1413.4	1446.1	1445.1
37.5°	1302.1	1321.1	1366.0	1375.2	1366.7
40°	1237.9	1256.9	1297.5	1307.4	1303.3
42.5°	1190.6	1193.9	1228.8	1240.1	1222.0
45°	1108.1	1128.8	1147.5	1177.1	1149.2
47.5°	1037.9	1047.5	1087.9	1095.8	1081.2
50°	974.2	977.6	1018.2	1008.4	998.7
52.5°	894.2	908.4	931.2	929.3	918.0
55°	828.3	822.8	844.4	838.7	838.4
57.5°	749.2	758.8	776.6	767.5	752.8
60°	675.2	675.4	681.9	671.6	669.7
62.5°	592.8	595.6	597.1	584.3	605.0
65°	508.9	502.1	521.8	501.9	505.3
67.5°	431.7	435.1	433.1	420.6	425.5
70°	353.3	357.7	354.5	340.4	344.7
72.5°	281.7	276.4	279.8	262.0	270.2
75°	211.8	207.4	211.3	196.4	203.1
77.5°	144.2	147.6	145.2	137.3	141.8
80°	95.2	92.5	92.5	88.0	88.9
82.5°	55.5	52.9	52.2	50.7	52.9
85°	26.0	25.2	25.7	25.0	24.0
87.5°	9.4	9.6	9.6	9.1	8.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)