

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: P562095

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562095  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-1HI-40-UNV-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

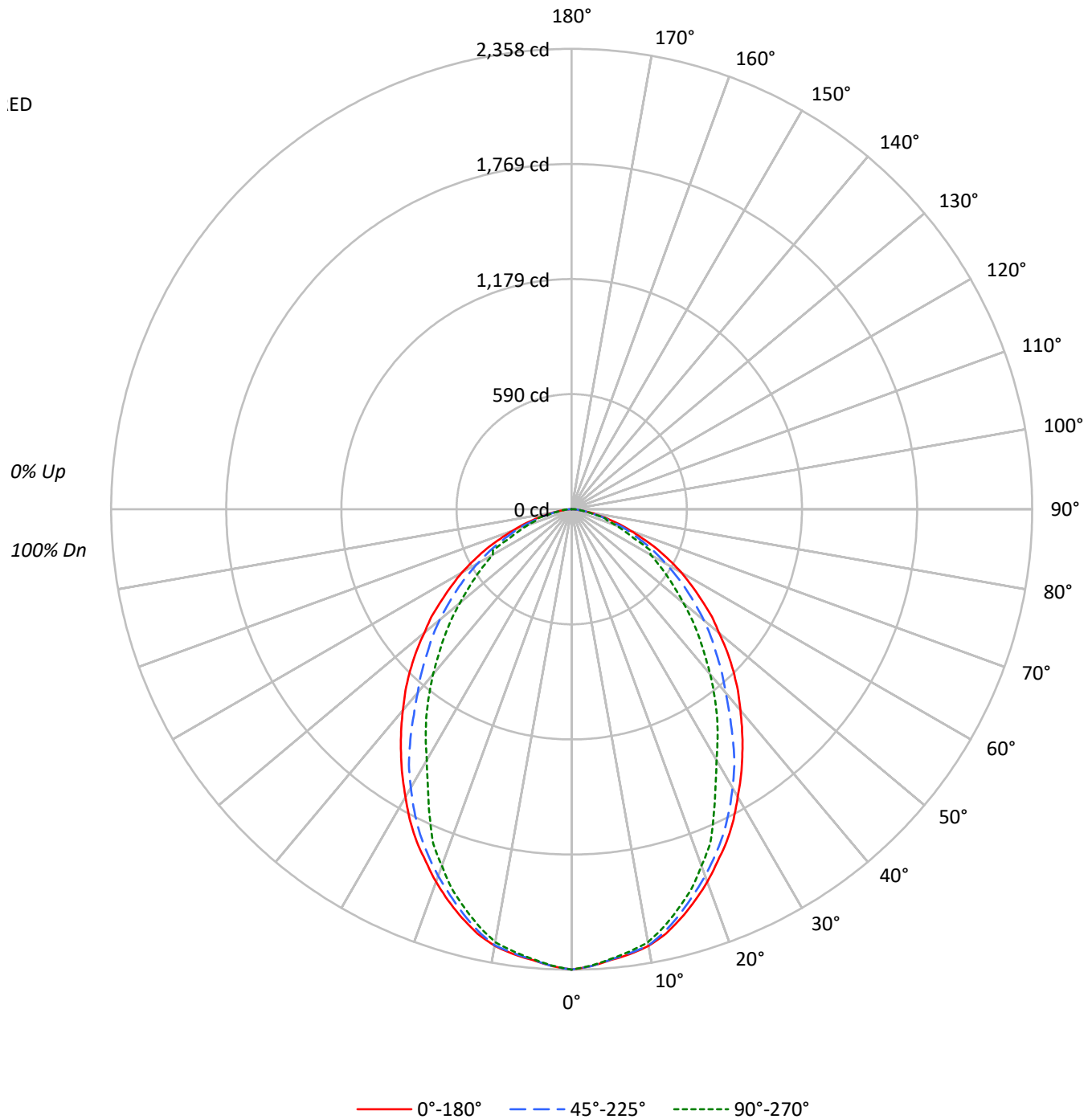
Lumens per Lamp: N/A  
Luminaire Lumens: 4629.0 lumens  
Efficiency: N/A  
Efficacy: 107.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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				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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

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

	0°	45°	90°
0°	3173	3173	3173
5°	3130	3126	3122
10°	3102	3099	3076
15°	3019	2988	2947
20°	2908	2861	2783
25°	2788	2728	2558
30°	2643	2558	2304
35°	2503	2364	2131
40°	2360	2155	1939
45°	2225	1992	1753
50°	2060	1849	1563
55°	1905	1675	1400
60°	1746	1496	1254
65°	1536	1310	1111
70°	1266	1148	944
75°	1006	879	921
80°	676	634	591
85°	421	505	590

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2225 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.5	4.7
10°-20°	602.4	13.0
20°-30°	834.0	18.0
30°-40°	889.2	19.2
40°-50°	811.2	17.5
50°-60°	635.5	13.7
60°-70°	414.2	8.9
70°-80°	183.5	4.0
80°-90°	39.4	0.9
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°	1655.8	35.8
0°-40°	2545.1	55.0
0°-60°	3991.9	86.2
0°-90°	4629.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4629.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2358	2358	2358	2358	2358	
5°	2317	2314	2314	2312	2312	220
15°	2167	2167	2145	2124	2115	609
25°	1878	1867	1837	1772	1723	862
35°	1524	1513	1439	1330	1298	953
45°	1169	1145	1047	960	921	901
55°	812	788	714	630	597	729
65°	482	455	412	420	349	476
75°	194	180	169	161	177	207
85°	27	30	33	35	38	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2358.0	2358.0	2358.0	2358.0	2358.0
2.5°	2341.6	2341.6	2341.6	2338.9	2338.9
5°	2317.1	2314.3	2314.3	2311.6	2311.6
7.5°	2298.0	2295.3	2292.5	2289.8	2284.3
10°	2270.7	2270.7	2268.0	2254.4	2251.6
12.5°	2227.1	2224.4	2213.5	2194.4	2188.9
15°	2167.1	2167.1	2145.3	2123.5	2115.3
17.5°	2101.7	2099.0	2071.7	2049.9	2039.0
20°	2030.8	2025.4	1998.1	1962.7	1943.6
22.5°	1951.8	1951.8	1919.1	1872.7	1853.6
25°	1878.2	1867.3	1837.3	1771.9	1722.8
27.5°	1793.7	1777.3	1744.6	1651.9	1594.7
30°	1701.0	1692.8	1646.5	1526.5	1482.9
32.5°	1613.8	1600.1	1551.1	1425.7	1390.2
35°	1523.8	1512.9	1439.3	1330.3	1297.6
37.5°	1433.9	1420.2	1327.5	1240.3	1199.4
40°	1343.9	1327.5	1226.7	1147.6	1104.0
42.5°	1259.4	1237.6	1139.4	1054.9	1005.9
45°	1169.4	1144.9	1046.8	959.5	921.4
47.5°	1079.5	1057.7	967.7	877.8	834.1
50°	984.1	965.0	883.2	793.3	746.9
52.5°	905.0	875.0	796.0	706.0	667.9
55°	812.3	787.8	714.2	629.7	597.0
57.5°	727.8	703.3	635.1	556.1	528.8
60°	648.8	613.3	556.1	487.9	466.1
62.5°	561.5	534.3	485.2	428.0	455.2
65°	482.5	455.2	411.6	419.8	348.9
67.5°	395.3	381.6	343.5	305.3	294.4
70°	321.7	305.3	291.7	250.8	239.9
72.5°	256.2	239.9	220.8	199.0	190.8
75°	193.5	179.9	169.0	160.8	177.2
77.5°	133.6	128.1	119.9	111.8	109.0
80°	87.2	84.5	81.8	79.1	76.3
82.5°	51.8	51.8	51.8	51.8	51.8
85°	27.3	30.0	32.7	35.4	38.2
87.5°	16.4	16.4	19.1	21.8	24.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)