

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: P562411

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562411  
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-LD4-1STD-40-UNV-93-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

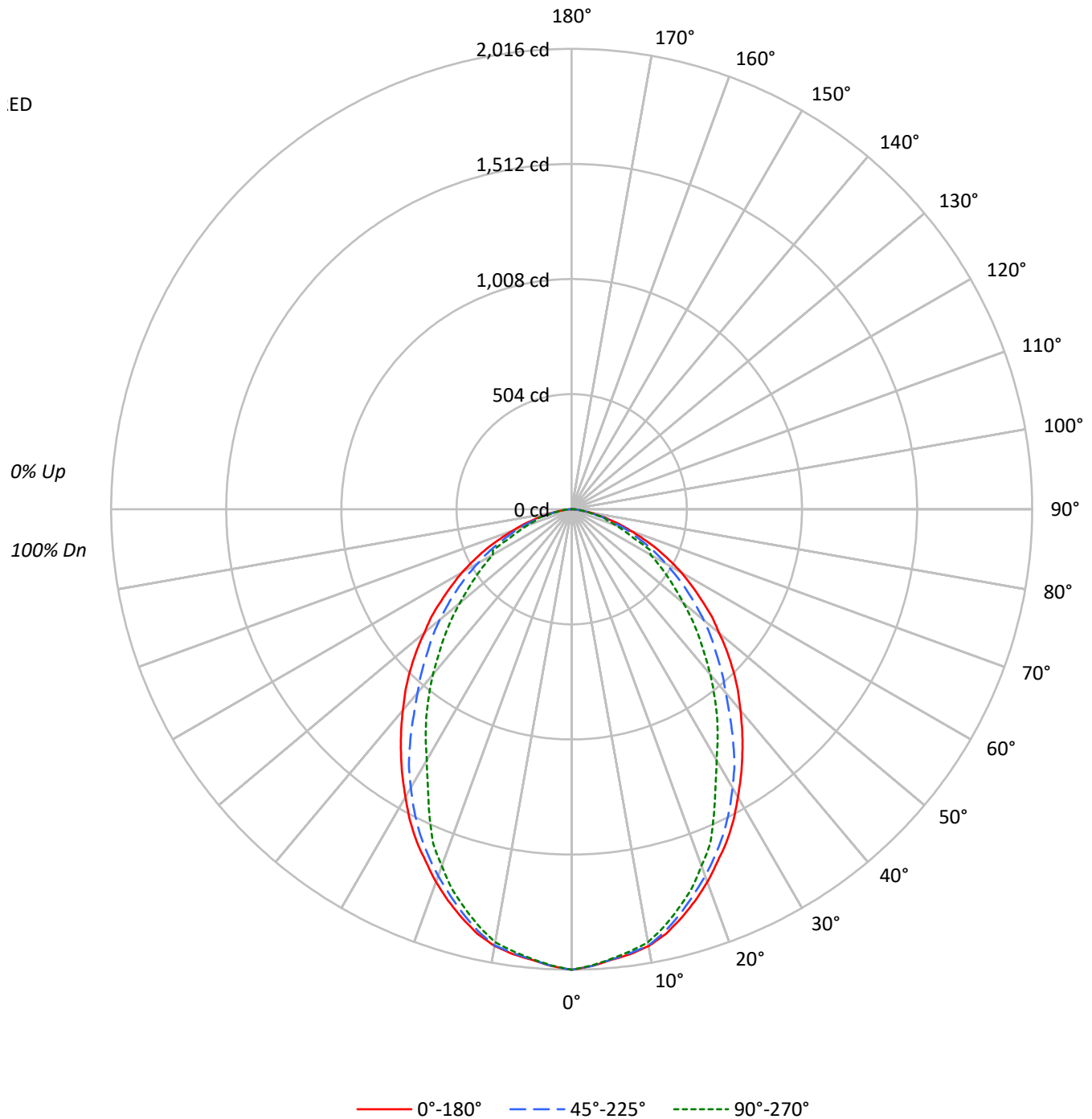
Lumens per Lamp: N/A  
Luminaire Lumens: 3958.0 lumens  
Efficiency: N/A  
Efficacy: 118.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	2713	2713	2713
5°	2676	2673	2670
10°	2653	2649	2630
15°	2581	2555	2519
20°	2486	2446	2380
25°	2384	2332	2187
30°	2260	2187	1970
35°	2140	2021	1822
40°	2018	1842	1658
45°	1903	1703	1499
50°	1761	1581	1337
55°	1629	1433	1197
60°	1493	1280	1073
65°	1314	1121	950
70°	1082	981	807
75°	860	751	788
80°	578	542	506
85°	360	432	503

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1903 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	187.7	4.7
10°-20°	515.1	13.0
20°-30°	713.1	18.0
30°-40°	760.3	19.2
40°-50°	693.6	17.5
50°-60°	543.4	13.7
60°-70°	354.2	8.9
70°-80°	156.9	4.0
80°-90°	33.7	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°	1415.8	35.8
0°-40°	2176.2	55.0
0°-60°	3413.2	86.2
0°-90°	3958.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3958.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2016	2016	2016	2016	2016	
5°	1981	1979	1979	1976	1976	188
15°	1853	1853	1834	1816	1809	521
25°	1606	1597	1571	1515	1473	737
35°	1303	1294	1231	1137	1110	815
45°	1000	979	895	820	788	770
55°	695	674	611	538	510	623
65°	413	389	352	359	298	407
75°	166	154	144	138	152	177
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2016.2	2016.2	2016.2	2016.2	2016.2
2.5°	2002.2	2002.2	2002.2	1999.8	1999.8
5°	1981.2	1978.9	1978.9	1976.5	1976.5
7.5°	1964.9	1962.5	1960.2	1957.9	1953.2
10°	1941.6	1941.6	1939.2	1927.6	1925.3
12.5°	1904.3	1901.9	1892.6	1876.3	1871.6
15°	1853.0	1853.0	1834.3	1815.7	1808.7
17.5°	1797.1	1794.7	1771.4	1752.8	1743.4
20°	1736.5	1731.8	1708.5	1678.2	1661.9
22.5°	1668.9	1668.9	1640.9	1601.3	1585.0
25°	1605.9	1596.6	1571.0	1515.0	1473.1
27.5°	1533.7	1519.7	1491.7	1412.5	1363.5
30°	1454.4	1447.4	1407.8	1305.3	1268.0
32.5°	1379.8	1368.2	1326.2	1219.0	1188.7
35°	1302.9	1293.6	1230.7	1137.4	1109.5
37.5°	1226.0	1214.4	1135.1	1060.5	1025.6
40°	1149.1	1135.1	1048.9	981.3	944.0
42.5°	1076.8	1058.2	974.3	902.0	860.1
45°	999.9	978.9	895.0	820.4	787.8
47.5°	923.0	904.4	827.4	750.5	713.2
50°	841.4	825.1	755.2	678.3	638.6
52.5°	773.8	748.2	680.6	603.7	571.0
55°	694.6	673.6	610.7	538.4	510.4
57.5°	622.3	601.3	543.1	475.5	452.2
60°	554.7	524.4	475.5	417.2	398.6
62.5°	480.1	456.8	414.9	365.9	389.2
65°	412.6	389.2	352.0	358.9	298.3
67.5°	338.0	326.3	293.7	261.1	251.7
70°	275.0	261.1	249.4	214.4	205.1
72.5°	219.1	205.1	188.8	170.1	163.2
75°	165.5	153.8	144.5	137.5	151.5
77.5°	114.2	109.5	102.6	95.6	93.2
80°	74.6	72.3	69.9	67.6	65.3
82.5°	44.3	44.3	44.3	44.3	44.3
85°	23.3	25.6	28.0	30.3	32.6
87.5°	14.0	14.0	16.3	18.6	21.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)