

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: P562371

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562371  
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-81-85-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

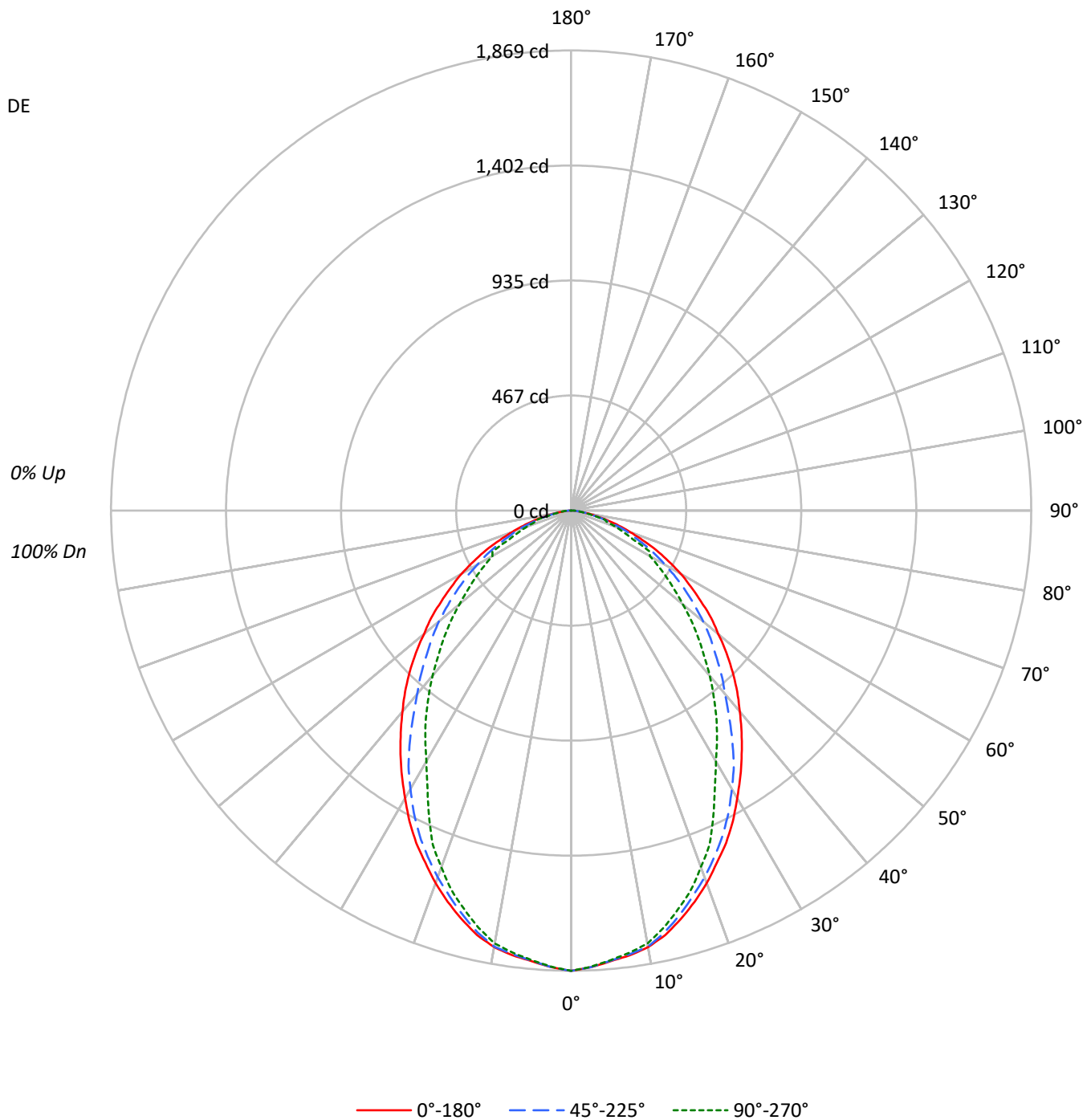
Lumens per Lamp: N/A  
Luminaire Lumens: 3670.0 lumens  
Efficiency: N/A  
Efficacy: 110.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

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

	0°	45°	90°
0°	2515	2515	2515
5°	2481	2478	2475
10°	2460	2457	2439
15°	2393	2369	2336
20°	2305	2268	2206
25°	2211	2163	2028
30°	2095	2028	1827
35°	1984	1874	1690
40°	1871	1708	1537
45°	1764	1579	1390
50°	1633	1466	1240
55°	1511	1328	1110
60°	1384	1186	995
65°	1218	1039	881
70°	1003	910	748
75°	797	697	730
80°	536	502	469
85°	333	400	468

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1764 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.0	4.7
10°-20°	477.6	13.0
20°-30°	661.2	18.0
30°-40°	705.0	19.2
40°-50°	643.2	17.5
50°-60°	503.9	13.7
60°-70°	328.4	8.9
70°-80°	145.5	4.0
80°-90°	31.3	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°	1312.8	35.8
0°-40°	2017.8	55.0
0°-60°	3164.9	86.2
0°-90°	3670.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3670.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1869	1869	1869	1869	1869	
5°	1837	1835	1835	1833	1833	174
15°	1718	1718	1701	1684	1677	483
25°	1489	1480	1457	1405	1366	684
35°	1208	1200	1141	1055	1029	755
45°	927	908	830	761	730	714
55°	644	625	566	499	473	578
65°	382	361	326	333	277	377
75°	153	143	134	128	140	164
85°	22	24	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1869.4	1869.4	1869.4	1869.4	1869.4
2.5°	1856.5	1856.5	1856.5	1854.3	1854.3
5°	1837.0	1834.9	1834.9	1832.7	1832.7
7.5°	1821.9	1819.7	1817.6	1815.4	1811.1
10°	1800.3	1800.3	1798.1	1787.3	1785.2
12.5°	1765.7	1763.5	1754.9	1739.8	1735.5
15°	1718.2	1718.2	1700.9	1683.6	1677.1
17.5°	1666.3	1664.1	1642.5	1625.2	1616.6
20°	1610.1	1605.8	1584.2	1556.1	1540.9
22.5°	1547.4	1547.4	1521.5	1484.8	1469.6
25°	1489.1	1480.4	1456.7	1404.8	1365.9
27.5°	1422.1	1409.1	1383.2	1309.7	1264.3
30°	1348.6	1342.1	1305.4	1210.3	1175.7
32.5°	1279.4	1268.6	1229.7	1130.3	1102.2
35°	1208.1	1199.5	1141.1	1054.7	1028.7
37.5°	1136.8	1126.0	1052.5	983.4	950.9
40°	1065.5	1052.5	972.5	909.9	875.3
42.5°	998.5	981.2	903.4	836.4	797.5
45°	927.2	907.7	829.9	760.7	730.5
47.5°	855.8	838.6	767.2	695.9	661.3
50°	780.2	765.1	700.2	628.9	592.2
52.5°	717.5	693.7	631.1	559.8	529.5
55°	644.0	624.6	566.2	499.2	473.3
57.5°	577.0	557.6	503.6	440.9	419.3
60°	514.4	486.3	440.9	386.9	369.6
62.5°	445.2	423.6	384.7	339.3	360.9
65°	382.5	360.9	326.3	332.8	276.6
67.5°	313.4	302.6	272.3	242.1	233.4
70°	255.0	242.1	231.2	198.8	190.2
72.5°	203.2	190.2	175.1	157.8	151.3
75°	153.4	142.6	134.0	127.5	140.5
77.5°	105.9	101.6	95.1	88.6	86.4
80°	69.2	67.0	64.8	62.7	60.5
82.5°	41.1	41.1	41.1	41.1	41.1
85°	21.6	23.8	25.9	28.1	30.3
87.5°	13.0	13.0	15.1	17.3	19.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)