

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: P562011

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562011  
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-35-UNV-82-94-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

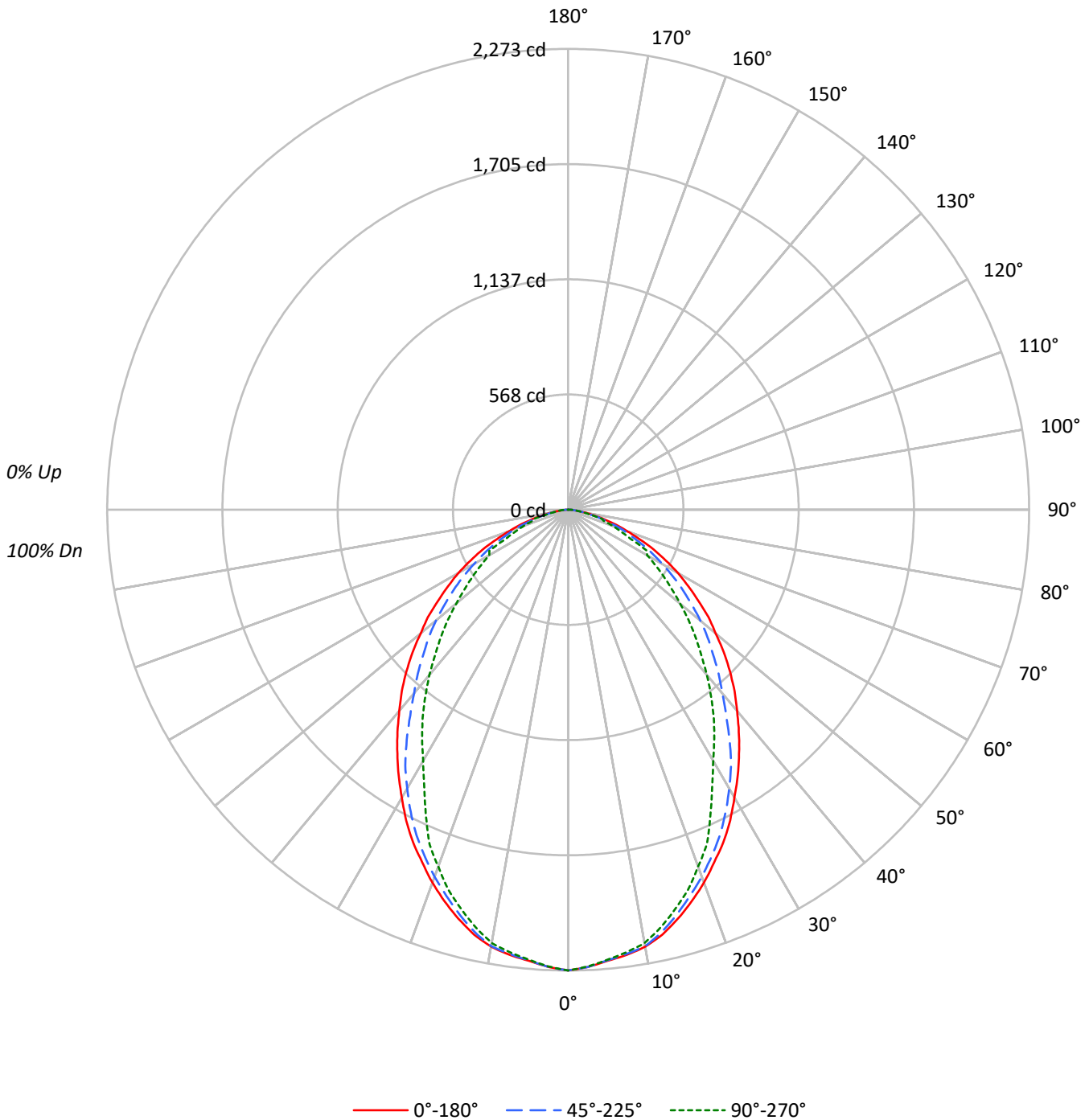
Lumens per Lamp: N/A  
Luminaire Lumens: 4462.0 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P562011

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-82-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562011

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-82-94-EDD

**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°	3058	3058	3058
5°	3017	3013	3009
10°	2990	2987	2965
15°	2910	2880	2840
20°	2803	2758	2683
25°	2688	2629	2465
30°	2547	2466	2221
35°	2413	2279	2054
40°	2275	2077	1869
45°	2145	1920	1690
50°	1986	1782	1507
55°	1837	1615	1350
60°	1683	1442	1209
65°	1481	1263	1071
70°	1220	1106	910
75°	970	847	888
80°	652	611	570
85°	406	486	568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2145 cd/sqm



TEST NUMBER: P562011

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-82-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	211.6	4.7
10°-20°	580.7	13.0
20°-30°	803.9	18.0
30°-40°	857.2	19.2
40°-50°	782.0	17.5
50°-60°	612.6	13.7
60°-70°	399.3	8.9
70°-80°	176.9	4.0
80°-90°	38.0	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°	1596.1	35.8
0°-40°	2453.2	55.0
0°-60°	3847.8	86.2
0°-90°	4462.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4462.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2273	2273	2273	2273	2273	
5°	2234	2231	2231	2228	2228	212
15°	2089	2089	2068	2047	2039	587
25°	1810	1800	1771	1708	1661	831
35°	1469	1458	1387	1282	1251	918
45°	1127	1104	1009	925	888	868
55°	783	759	688	607	575	702
65°	465	439	397	405	336	458
75°	187	173	163	155	171	200
85°	26	29	32	34	37	36
90°	0	0	0	0	0	

TEST NUMBER: P562011

CATALOG NUMBER: FSR-24-4-LD4-1HI-35-UNV-82-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2272.9	2272.9	2272.9	2272.9	2272.9
2.5°	2257.1	2257.1	2257.1	2254.5	2254.5
5°	2233.5	2230.8	2230.8	2228.2	2228.2
7.5°	2215.1	2212.4	2209.8	2207.2	2201.9
10°	2188.8	2188.8	2186.2	2173.0	2170.4
12.5°	2146.8	2144.1	2133.6	2115.2	2110.0
15°	2089.0	2089.0	2067.9	2046.9	2039.0
17.5°	2025.9	2023.3	1997.0	1976.0	1965.5
20°	1957.6	1952.3	1926.0	1891.9	1873.5
22.5°	1881.4	1881.4	1849.8	1805.2	1786.8
25°	1810.4	1799.9	1771.0	1707.9	1660.6
27.5°	1729.0	1713.2	1681.7	1592.3	1537.2
30°	1639.6	1631.7	1587.1	1471.5	1429.4
32.5°	1555.5	1542.4	1495.1	1374.2	1340.1
35°	1468.8	1458.3	1387.4	1282.3	1250.7
37.5°	1382.1	1369.0	1279.6	1195.6	1156.1
40°	1295.4	1279.6	1182.4	1106.2	1064.2
42.5°	1214.0	1192.9	1098.3	1016.9	969.6
45°	1127.2	1103.6	1009.0	924.9	888.1
47.5°	1040.5	1019.5	932.8	846.1	804.0
50°	948.6	930.2	851.3	764.6	720.0
52.5°	872.4	843.5	767.3	680.6	643.8
55°	783.0	759.4	688.4	607.0	575.4
57.5°	701.6	677.9	612.2	536.0	509.8
60°	625.4	591.2	536.0	470.3	449.3
62.5°	541.3	515.0	467.7	412.5	438.8
65°	465.1	438.8	396.8	404.7	336.3
67.5°	381.0	367.9	331.1	294.3	283.8
70°	310.1	294.3	281.2	241.7	231.2
72.5°	247.0	231.2	212.8	191.8	183.9
75°	186.6	173.4	162.9	155.0	170.8
77.5°	128.8	123.5	115.6	107.7	105.1
80°	84.1	81.5	78.8	76.2	73.6
82.5°	49.9	49.9	49.9	49.9	49.9
85°	26.3	28.9	31.5	34.2	36.8
87.5°	15.8	15.8	18.4	21.0	23.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)