

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: P561971

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561971  
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-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

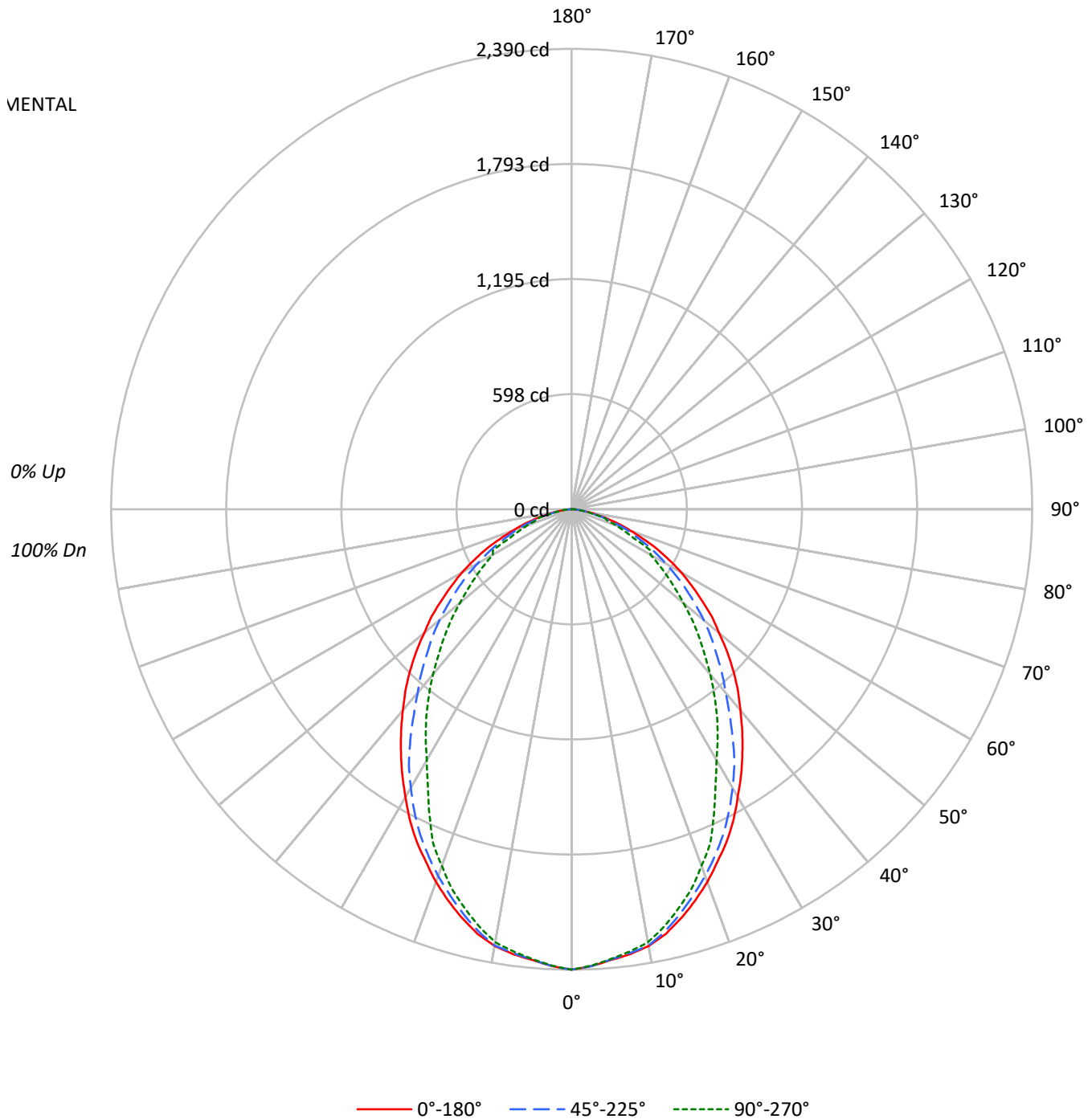
Lumens per Lamp: N/A  
Luminaire Lumens: 4692.0 lumens  
Efficiency: N/A  
Efficacy: 108.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32

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

	0°	45°	90°
0°	3216	3216	3216
5°	3172	3168	3165
10°	3145	3141	3118
15°	3060	3029	2987
20°	2947	2900	2821
25°	2826	2765	2593
30°	2679	2593	2335
35°	2537	2396	2160
40°	2393	2184	1965
45°	2256	2019	1777
50°	2088	1874	1585
55°	1932	1698	1419
60°	1770	1517	1271
65°	1557	1328	1126
70°	1282	1163	956
75°	1020	891	934
80°	685	642	600
85°	426	513	597

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2256 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.5	4.7
10°-20°	610.6	13.0
20°-30°	845.3	18.0
30°-40°	901.3	19.2
40°-50°	822.3	17.5
50°-60°	644.2	13.7
60°-70°	419.9	8.9
70°-80°	186.0	4.0
80°-90°	39.9	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°	1678.4	35.8
0°-40°	2579.7	55.0
0°-60°	4046.2	86.2
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°	2390	2390	2390	2390	2390	
5°	2349	2346	2346	2343	2343	223
15°	2197	2197	2174	2152	2144	618
25°	1904	1893	1862	1796	1746	874
35°	1544	1534	1459	1348	1315	966
45°	1185	1160	1061	973	934	913
55°	823	798	724	638	605	739
65°	489	461	417	426	354	482
75°	196	182	171	163	180	210
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2390.0	2390.0	2390.0	2390.0	2390.0
2.5°	2373.5	2373.5	2373.5	2370.7	2370.7
5°	2348.6	2345.8	2345.8	2343.1	2343.1
7.5°	2329.3	2326.5	2323.7	2321.0	2315.4
10°	2301.6	2301.6	2298.9	2285.0	2282.3
12.5°	2257.4	2254.7	2243.6	2224.3	2218.7
15°	2196.6	2196.6	2174.5	2152.4	2144.1
17.5°	2130.3	2127.6	2099.9	2077.8	2066.8
20°	2058.5	2052.9	2025.3	1989.4	1970.1
22.5°	1978.3	1978.3	1945.2	1898.2	1878.9
25°	1903.7	1892.7	1862.3	1796.0	1746.3
27.5°	1818.1	1801.5	1768.4	1674.4	1616.4
30°	1724.1	1715.9	1668.9	1547.3	1503.1
32.5°	1635.7	1621.9	1572.2	1445.1	1409.2
35°	1544.5	1533.5	1458.9	1348.4	1315.2
37.5°	1453.4	1439.6	1345.6	1257.2	1215.7
40°	1362.2	1345.6	1243.4	1163.2	1119.0
42.5°	1276.5	1254.4	1155.0	1069.3	1019.6
45°	1185.4	1160.5	1061.0	972.6	933.9
47.5°	1094.2	1072.1	980.9	889.7	845.5
50°	997.5	978.1	895.2	804.0	757.1
52.5°	917.3	886.9	806.8	715.6	676.9
55°	823.4	798.5	723.9	638.3	605.1
57.5°	737.7	712.9	643.8	563.7	536.0
60°	657.6	621.7	563.7	494.6	472.5
62.5°	569.2	541.6	491.8	433.8	461.4
65°	489.1	461.4	417.2	425.5	353.7
67.5°	400.6	386.8	348.1	309.5	298.4
70°	326.0	309.5	295.6	254.2	243.1
72.5°	259.7	243.1	223.8	201.7	193.4
75°	196.2	182.4	171.3	163.0	179.6
77.5°	135.4	129.9	121.6	113.3	110.5
80°	88.4	85.7	82.9	80.1	77.4
82.5°	52.5	52.5	52.5	52.5	52.5
85°	27.6	30.4	33.2	35.9	38.7
87.5°	16.6	16.6	19.3	22.1	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)