

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: P562023

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-87-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562023  
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-93-87-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

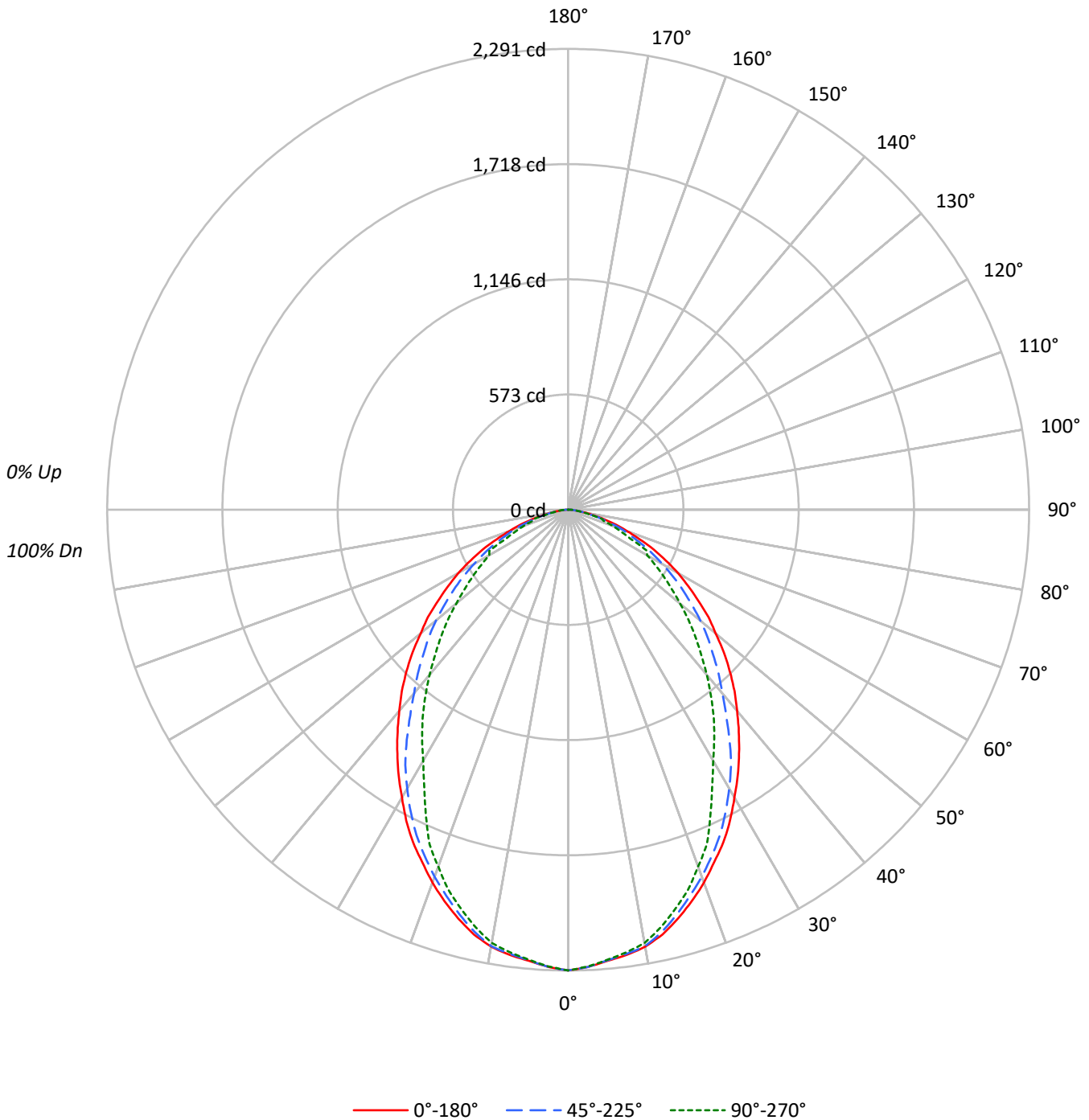
Lumens per Lamp: N/A  
Luminaire Lumens: 4497.0 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3082	3082	3082
5°	3040	3037	3033
10°	3014	3010	2989
15°	2933	2903	2863
20°	2825	2779	2704
25°	2709	2650	2485
30°	2567	2485	2238
35°	2432	2297	2071
40°	2293	2093	1884
45°	2162	1935	1703
50°	2001	1796	1519
55°	1851	1628	1361
60°	1696	1454	1218
65°	1492	1273	1079
70°	1229	1115	917
75°	977	854	895
80°	656	615	575
85°	409	491	573

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2162 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	213.2	4.7
10°-20°	585.2	13.0
20°-30°	810.2	18.0
30°-40°	863.9	19.2
40°-50°	788.1	17.5
50°-60°	617.4	13.7
60°-70°	402.4	8.9
70°-80°	178.3	4.0
80°-90°	38.3	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°	1608.6	35.8
0°-40°	2472.5	55.0
0°-60°	3878.0	86.2
0°-90°	4497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4497.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2291	2291	2291	2291	2291	
5°	2251	2248	2248	2246	2246	214
15°	2105	2105	2084	2063	2055	592
25°	1825	1814	1785	1721	1674	838
35°	1480	1470	1398	1292	1261	925
45°	1136	1112	1017	932	895	875
55°	789	765	694	612	580	708
65°	469	442	400	408	339	462
75°	188	175	164	156	172	202
85°	26	29	32	34	37	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2290.7	2290.7	2290.7	2290.7	2290.7
2.5°	2274.8	2274.8	2274.8	2272.2	2272.2
5°	2251.0	2248.3	2248.3	2245.7	2245.7
7.5°	2232.5	2229.8	2227.2	2224.5	2219.2
10°	2206.0	2206.0	2203.3	2190.1	2187.4
12.5°	2163.6	2160.9	2150.4	2131.8	2126.5
15°	2105.3	2105.3	2084.2	2063.0	2055.0
17.5°	2041.8	2039.1	2012.6	1991.5	1980.9
20°	1972.9	1967.6	1941.1	1906.7	1888.2
22.5°	1896.1	1896.1	1864.3	1819.3	1800.8
25°	1824.6	1814.0	1784.9	1721.3	1673.7
27.5°	1742.5	1726.6	1694.9	1604.8	1549.2
30°	1652.5	1644.5	1599.5	1483.0	1440.6
32.5°	1567.7	1554.5	1506.8	1385.0	1350.6
35°	1480.4	1469.8	1398.3	1292.3	1260.6
37.5°	1393.0	1379.7	1289.7	1204.9	1165.2
40°	1305.6	1289.7	1191.7	1114.9	1072.5
42.5°	1223.5	1202.3	1107.0	1024.9	977.2
45°	1136.1	1112.3	1016.9	932.2	895.1
47.5°	1048.7	1027.5	940.1	852.7	810.4
50°	956.0	937.5	858.0	770.6	725.6
52.5°	879.2	850.1	773.3	685.9	648.8
55°	789.2	765.3	693.8	611.7	580.0
57.5°	707.1	683.2	617.0	540.2	513.8
60°	630.3	595.8	540.2	474.0	452.8
62.5°	545.5	519.1	471.4	415.8	442.3
65°	468.7	442.3	399.9	407.8	339.0
67.5°	384.0	370.8	333.7	296.6	286.0
70°	312.5	296.6	283.4	243.6	233.0
72.5°	248.9	233.0	214.5	193.3	185.4
75°	188.0	174.8	164.2	156.2	172.1
77.5°	129.8	124.5	116.5	108.6	105.9
80°	84.7	82.1	79.4	76.8	74.2
82.5°	50.3	50.3	50.3	50.3	50.3
85°	26.5	29.1	31.8	34.4	37.1
87.5°	15.9	15.9	18.5	21.2	23.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)