

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: P561529

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-80-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561529  
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-12-4-LD4-2LO-35-UNV-80-88-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

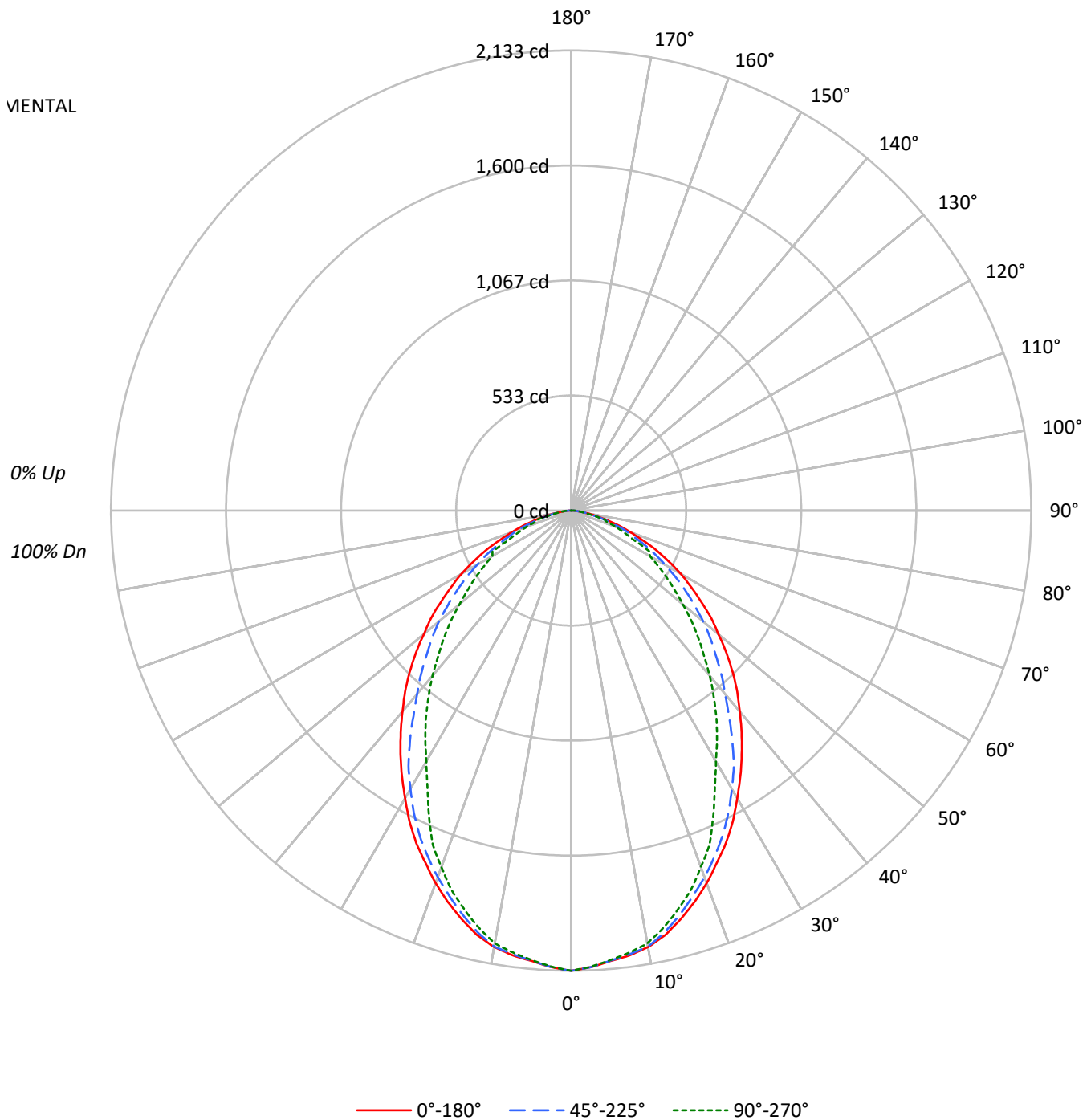
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4188.0 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
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°	5741	5741	5741
5°	5663	5656	5649
10°	5614	5607	5566
15°	5462	5407	5332
20°	5262	5177	5035
25°	5046	4936	4628
30°	4782	4629	4169
35°	4529	4278	3856
40°	4271	3899	3509
45°	4026	3604	3172
50°	3727	3345	2829
55°	3448	3032	2534
60°	3159	2708	2270
65°	2779	2371	2010
70°	2290	2076	1707
75°	1821	1590	1667
80°	1223	1147	1071
85°	763	914	1065

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4026 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	198.6	4.7
10°-20°	545.0	13.0
20°-30°	754.5	18.0
30°-40°	804.5	19.2
40°-50°	734.0	17.5
50°-60°	575.0	13.7
60°-70°	374.8	8.9
70°-80°	166.0	4.0
80°-90°	35.7	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°	1498.1	35.8
0°-40°	2302.6	55.0
0°-60°	3611.6	86.2
0°-90°	4188.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4188.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2133	2133	2133	2133	2133	
5°	2096	2094	2094	2091	2091	199
15°	1961	1961	1941	1921	1914	551
25°	1699	1689	1662	1603	1559	780
35°	1379	1369	1302	1204	1174	862
45°	1058	1036	947	868	834	815
55°	735	713	646	570	540	659
65°	436	412	372	380	316	430
75°	175	163	153	146	160	188
85°	25	27	30	32	34	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2133.3	2133.3	2133.3	2133.3	2133.3
2.5°	2118.5	2118.5	2118.5	2116.0	2116.0
5°	2096.3	2093.9	2093.9	2091.4	2091.4
7.5°	2079.1	2076.6	2074.1	2071.7	2066.7
10°	2054.4	2054.4	2051.9	2039.6	2037.1
12.5°	2014.9	2012.5	2002.6	1985.3	1980.4
15°	1960.7	1960.7	1940.9	1921.2	1913.8
17.5°	1901.5	1899.0	1874.4	1854.6	1844.8
20°	1837.4	1832.4	1807.8	1775.7	1758.4
22.5°	1765.8	1765.8	1736.2	1694.3	1677.1
25°	1699.3	1689.4	1662.3	1603.1	1558.7
27.5°	1622.8	1608.0	1578.4	1494.6	1442.8
30°	1538.9	1531.5	1489.6	1381.1	1341.6
32.5°	1460.0	1447.7	1403.3	1289.9	1257.8
35°	1378.6	1368.8	1302.2	1203.5	1173.9
37.5°	1297.3	1284.9	1201.1	1122.1	1085.2
40°	1215.9	1201.1	1109.8	1038.3	998.8
42.5°	1139.4	1119.7	1030.9	954.4	910.0
45°	1058.0	1035.8	947.0	868.1	833.6
47.5°	976.6	956.9	875.5	794.1	754.7
50°	890.3	873.1	799.1	717.7	675.8
52.5°	818.8	791.7	720.1	638.8	604.2
55°	734.9	712.7	646.2	569.7	540.1
57.5°	658.5	636.3	574.6	503.1	478.5
60°	587.0	554.9	503.1	441.5	421.7
62.5°	508.0	483.4	439.0	387.2	411.9
65°	436.5	411.9	372.4	379.8	315.7
67.5°	357.6	345.3	310.7	276.2	266.4
70°	291.0	276.2	263.9	226.9	217.0
72.5°	231.8	217.0	199.8	180.0	172.6
75°	175.1	162.8	152.9	145.5	160.3
77.5°	120.8	115.9	108.5	101.1	98.7
80°	78.9	76.5	74.0	71.5	69.1
82.5°	46.9	46.9	46.9	46.9	46.9
85°	24.7	27.1	29.6	32.1	34.5
87.5°	14.8	14.8	17.3	19.7	22.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)