

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: P561775

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561775  
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-LD4-2STD-35-UNV-93-97-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

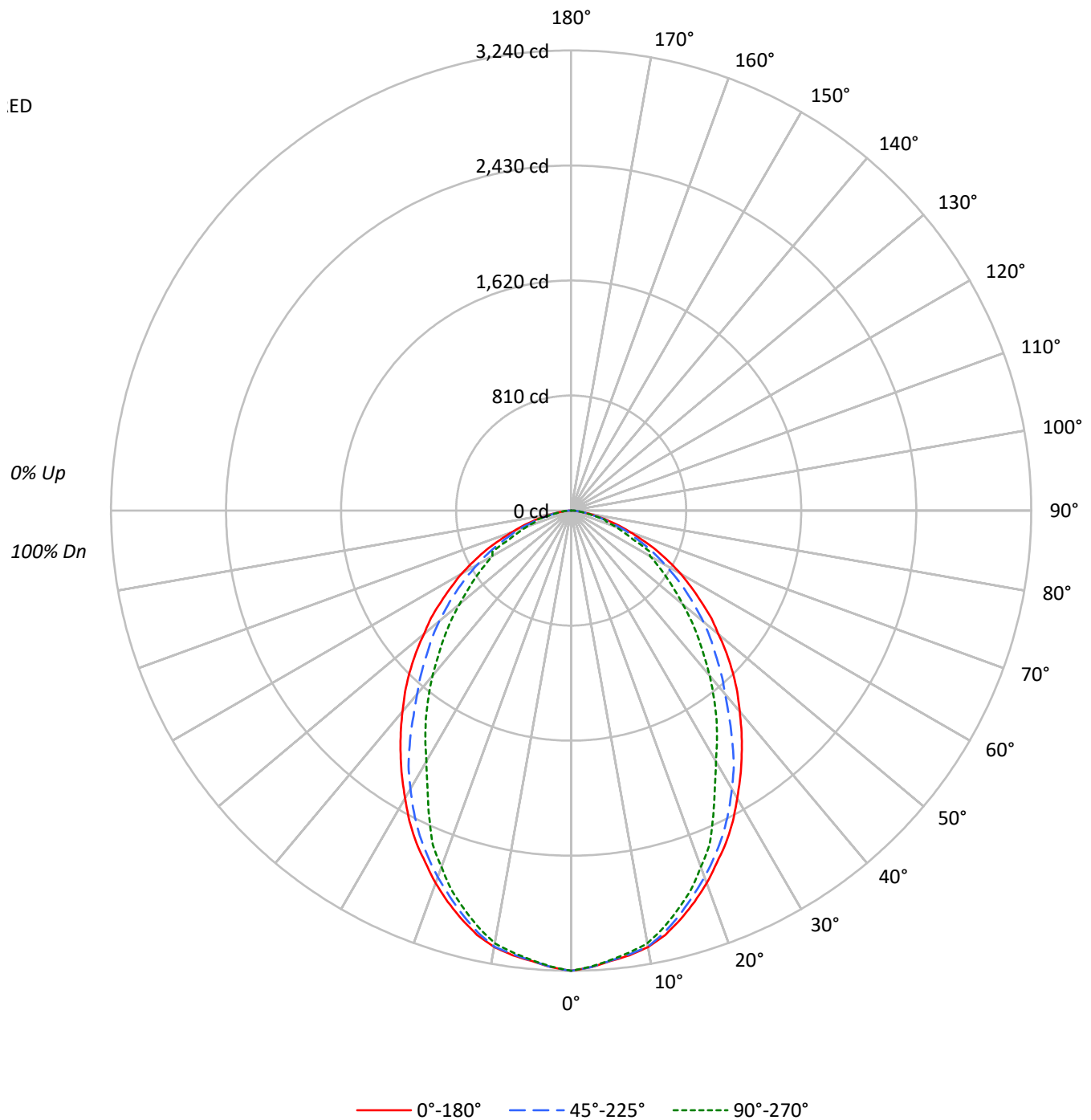
Lumens per Lamp: N/A  
Luminaire Lumens: 6361.0 lumens  
Efficiency: N/A  
Efficacy: 95.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8719	8719	8719
5°	8601	8591	8581
10°	8526	8516	8455
15°	8296	8213	8098
20°	7992	7863	7648
25°	7663	7496	7029
30°	7263	7030	6332
35°	6879	6497	5858
40°	6487	5922	5329
45°	6116	5474	4818
50°	5661	5081	4297
55°	5237	4604	3849
60°	4798	4113	3447
65°	4222	3601	3053
70°	3478	3153	2593
75°	2766	2414	2532
80°	1858	1742	1626
85°	1158	1389	1618

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6116 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	301.6	4.7
10°-20°	827.8	13.0
20°-30°	1146.0	18.0
30°-40°	1222.0	19.2
40°-50°	1114.8	17.5
50°-60°	873.3	13.7
60°-70°	569.2	8.9
70°-80°	252.2	4.0
80°-90°	54.2	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°	2275.4	35.8
0°-40°	3497.3	55.0
0°-60°	5485.5	86.2
0°-90°	6361.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6361.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3240	3240	3240	3240	3240	
5°	3184	3180	3180	3176	3176	302
15°	2978	2978	2948	2918	2907	837
25°	2581	2566	2525	2435	2367	1185
35°	2094	2079	1978	1828	1783	1309
45°	1607	1573	1438	1319	1266	1238
55°	1116	1083	981	865	820	1001
65°	663	626	566	577	480	653
75°	266	247	232	221	244	285
85°	38	41	45	49	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3240.2	3240.2	3240.2	3240.2	3240.2
2.5°	3217.7	3217.7	3217.7	3214.0	3214.0
5°	3184.0	3180.3	3180.3	3176.5	3176.5
7.5°	3157.8	3154.1	3150.3	3146.6	3139.1
10°	3120.3	3120.3	3116.6	3097.9	3094.1
12.5°	3060.4	3056.7	3041.7	3015.5	3008.0
15°	2978.0	2978.0	2948.0	2918.1	2906.8
17.5°	2888.1	2884.3	2846.9	2816.9	2801.9
20°	2790.7	2783.2	2745.7	2697.1	2670.8
22.5°	2682.1	2682.1	2637.1	2573.4	2547.2
25°	2580.9	2565.9	2524.7	2434.8	2367.4
27.5°	2464.8	2442.3	2397.4	2270.0	2191.4
30°	2337.4	2326.2	2262.5	2097.7	2037.8
32.5°	2217.6	2198.8	2131.4	1959.1	1910.4
35°	2094.0	2079.0	1977.8	1828.0	1783.1
37.5°	1970.3	1951.6	1824.3	1704.4	1648.2
40°	1846.7	1824.3	1685.7	1577.0	1517.1
42.5°	1730.6	1700.6	1565.8	1449.7	1382.2
45°	1607.0	1573.3	1438.4	1318.6	1266.1
47.5°	1483.4	1453.4	1329.8	1206.2	1146.2
50°	1352.3	1326.1	1213.7	1090.1	1026.4
52.5°	1243.6	1202.4	1093.8	970.2	917.7
55°	1116.3	1082.6	981.4	865.3	820.4
57.5°	1000.2	966.4	872.8	764.2	726.7
60°	891.5	842.8	764.2	670.5	640.5
62.5°	771.7	734.2	666.8	588.1	625.6
65°	663.0	625.6	565.6	576.9	479.5
67.5°	543.2	524.4	472.0	419.5	404.6
70°	442.0	419.5	400.8	344.6	329.6
72.5°	352.1	329.6	303.4	273.5	262.2
75°	266.0	247.2	232.2	221.0	243.5
77.5°	183.5	176.1	164.8	153.6	149.8
80°	119.9	116.1	112.4	108.6	104.9
82.5°	71.2	71.2	71.2	71.2	71.2
85°	37.5	41.2	45.0	48.7	52.4
87.5°	22.5	22.5	26.2	30.0	33.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)