

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: P590132

Luminaire Tested: FSR-24-2-LD4-1STD-50-UNV-93-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590132  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-1STD-50-UNV-93-97-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

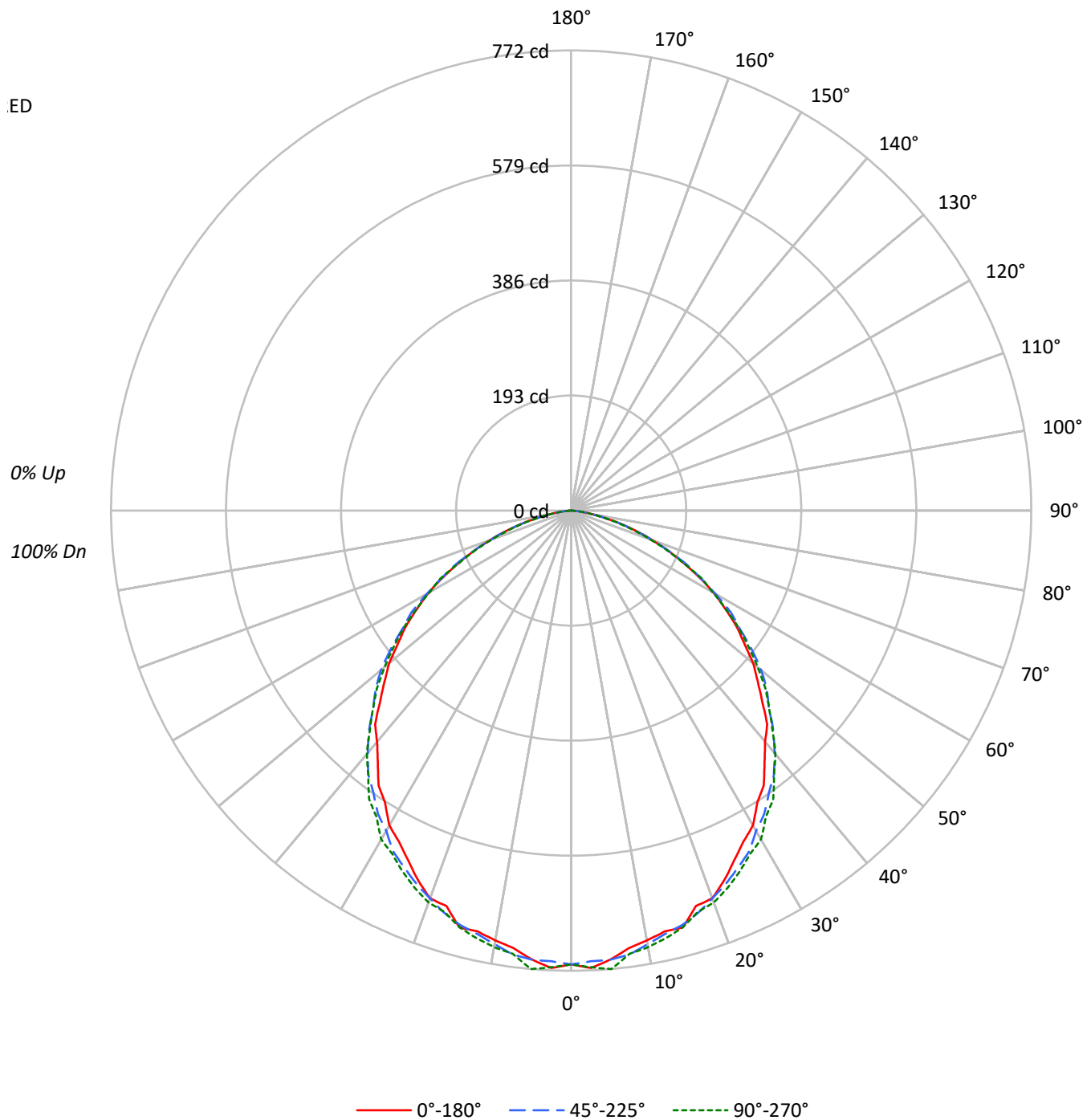
Lumens per Lamp: N/A  
Luminaire Lumens: 1919.0 lumens  
Efficiency: N/A  
Efficacy: 115.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 16.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	2049	2049	2049
5°	2042	2043	2086
10°	2001	2018	2032
15°	2017	2006	2017
20°	1983	1983	2004
25°	1922	1964	1985
30°	1895	1928	1980
35°	1850	1899	1941
40°	1779	1864	1872
45°	1725	1786	1789
50°	1668	1743	1710
55°	1590	1620	1609
60°	1486	1501	1474
65°	1325	1359	1316
70°	1137	1141	1109
75°	900	898	864
80°	603	586	564
85°	327	324	303

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1832 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	71.6	3.7
10°-20°	203.0	10.6
20°-30°	304.1	15.8
30°-40°	360.4	18.8
40°-50°	361.1	18.8
50°-60°	306.5	16.0
60°-70°	206.7	10.8
70°-80°	90.8	4.7
80°-90°	14.7	0.8
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°	578.7	30.2
0°-40°	939.2	48.9
0°-60°	1606.8	83.7
0°-90°	1919.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1919.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	761	761	761	761	761	
5°	756	754	756	754	772	71
15°	724	716	720	724	724	202
25°	647	651	661	670	669	299
35°	563	565	578	591	591	350
45°	453	462	469	481	470	351
55°	339	336	345	343	343	301
65°	208	205	213	205	207	207
75°	87	85	86	80	83	93
85°	11	10	10	10	10	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	761.4	761.4	761.4	761.4	761.4
2.5°	768.0	762.2	756.8	763.1	766.9
5°	756.0	754.2	756.3	754.0	772.2
7.5°	740.5	747.3	751.2	748.7	749.8
10°	732.2	729.9	738.6	744.7	743.8
12.5°	723.4	726.9	727.4	734.0	734.6
15°	723.9	715.5	719.9	723.7	724.0
17.5°	695.7	704.8	707.8	716.4	705.8
20°	692.3	685.7	692.3	701.0	699.7
22.5°	671.2	663.8	677.9	685.7	685.2
25°	647.2	650.7	661.3	670.0	668.6
27.5°	626.1	630.3	645.4	657.3	649.6
30°	609.9	607.9	620.6	631.2	637.1
32.5°	580.9	588.4	603.3	613.8	608.2
35°	563.3	565.0	578.1	591.4	591.0
37.5°	532.5	540.3	558.7	562.4	559.0
40°	506.3	514.1	530.7	534.7	533.0
42.5°	486.9	488.3	502.6	507.2	499.8
45°	453.2	461.7	469.3	481.4	470.0
47.5°	424.5	428.4	445.0	448.2	442.2
50°	398.5	399.8	416.4	412.4	408.5
52.5°	365.7	371.5	380.9	380.1	375.4
55°	338.8	336.5	345.4	343.0	342.9
57.5°	306.4	310.4	317.6	313.9	307.9
60°	276.2	276.3	278.9	274.7	273.9
62.5°	242.4	243.6	244.2	239.0	247.4
65°	208.1	205.4	213.4	205.3	206.6
67.5°	176.6	177.9	177.2	172.0	174.0
70°	144.5	146.3	145.0	139.2	141.0
72.5°	115.2	113.1	114.4	107.2	110.5
75°	86.6	84.8	86.4	80.3	83.1
77.5°	59.0	60.4	59.4	56.1	58.0
80°	38.9	37.8	37.8	36.0	36.4
82.5°	22.7	21.6	21.3	20.7	21.6
85°	10.6	10.3	10.5	10.2	9.8
87.5°	3.8	3.9	3.9	3.7	3.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)