

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: P589937

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-93-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589937  
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-LD4-1HI-50-UNV-93-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

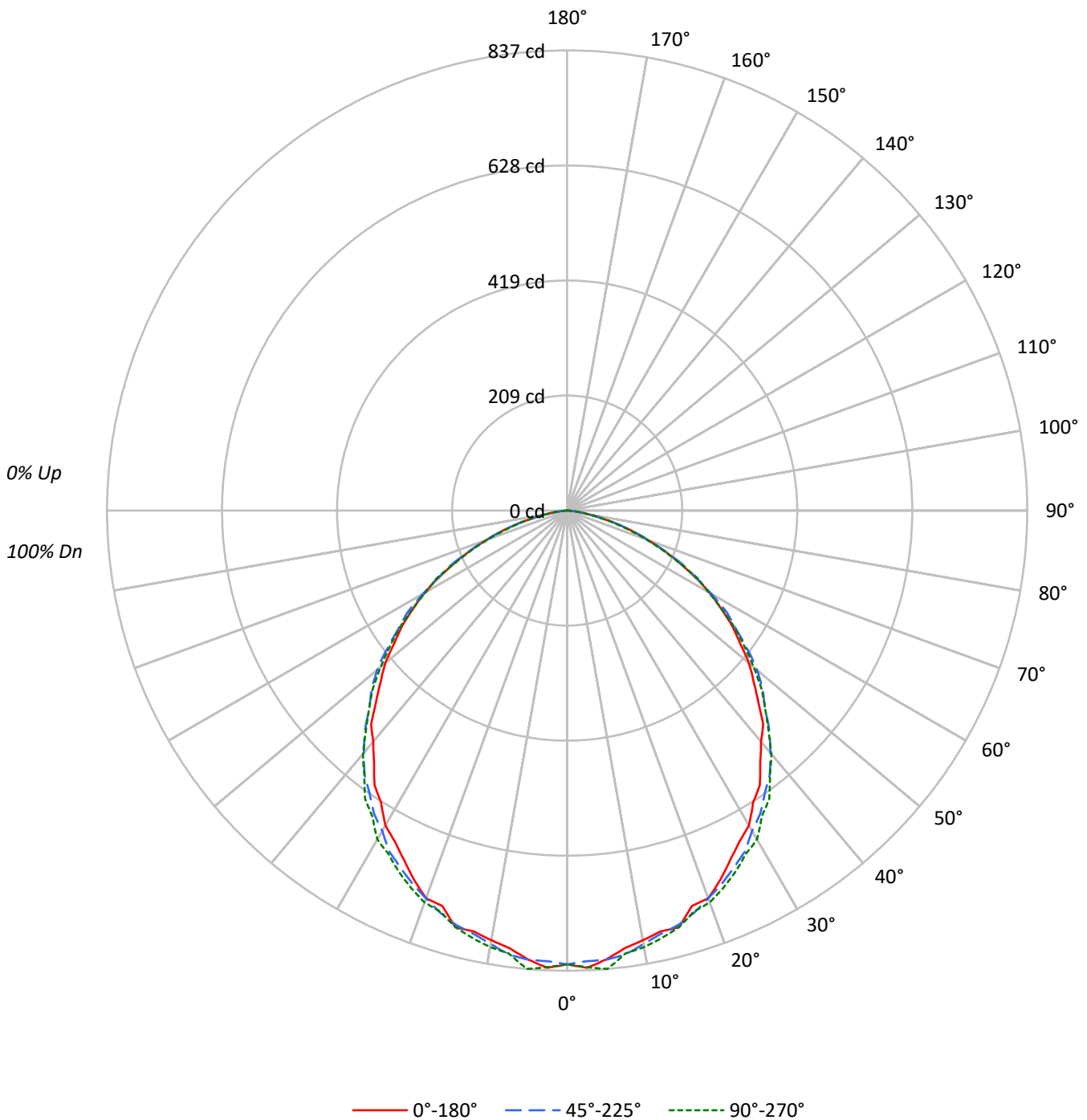
Lumens per Lamp: N/A  
Luminaire Lumens: 2080.0 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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	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									100																			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86									86																			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73									73																			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62									62																			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53									53																			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46									46																			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41									41																			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36									36																			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32									32																			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29									29																			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26									26																			

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

	0°	45°	90°
0°	2221	2221	2221
5°	2213	2214	2261
10°	2169	2188	2203
15°	2186	2174	2186
20°	2149	2149	2172
25°	2083	2128	2152
30°	2054	2090	2146
35°	2006	2058	2104
40°	1928	2021	2030
45°	1869	1936	1939
50°	1808	1890	1853
55°	1723	1756	1744
60°	1611	1627	1598
65°	1436	1473	1426
70°	1232	1237	1202
75°	976	974	936
80°	654	635	611
85°	355	352	330

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 1986 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.6	3.7
10°-20°	220.0	10.6
20°-30°	329.6	15.8
30°-40°	390.7	18.8
40°-50°	391.4	18.8
50°-60°	332.2	16.0
60°-70°	224.0	10.8
70°-80°	98.4	4.7
80°-90°	16.0	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°	627.3	30.2
0°-40°	1018.0	48.9
0°-60°	1741.6	83.7
0°-90°	2080.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2080.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	825	825	825	825	825	
5°	819	818	820	817	837	77
15°	785	776	780	784	785	219
25°	702	705	717	726	725	324
35°	611	612	627	641	641	379
45°	491	500	509	522	510	380
55°	367	365	374	372	372	327
65°	226	223	231	222	224	224
75°	94	92	94	87	90	101
85°	12	11	11	11	11	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	825.3	825.3	825.3	825.3	825.3
2.5°	832.4	826.1	820.3	827.1	831.3
5°	819.4	817.5	819.8	817.3	837.0
7.5°	802.6	809.9	814.2	811.5	812.7
10°	793.6	791.1	800.6	807.2	806.2
12.5°	784.1	787.9	788.4	795.6	796.2
15°	784.6	775.5	780.3	784.4	784.7
17.5°	754.1	763.9	767.2	776.5	765.0
20°	750.4	743.2	750.4	759.9	758.4
22.5°	727.5	719.5	734.8	743.2	742.7
25°	701.5	705.3	716.8	726.2	724.7
27.5°	678.7	683.1	699.6	712.4	704.1
30°	661.1	658.8	672.7	684.2	690.6
32.5°	629.7	637.7	653.9	665.3	659.3
35°	610.6	612.4	626.6	641.1	640.6
37.5°	577.2	585.6	605.6	609.6	605.9
40°	548.8	557.2	575.2	579.6	577.8
42.5°	527.8	529.3	544.7	549.7	541.7
45°	491.2	500.4	508.7	521.8	509.5
47.5°	460.1	464.4	482.3	485.8	479.3
50°	431.9	433.4	451.4	447.0	442.7
52.5°	396.4	402.7	412.8	412.0	406.9
55°	367.2	364.7	374.3	371.8	371.7
57.5°	332.1	336.4	344.3	340.2	333.7
60°	299.3	299.4	302.3	297.7	296.9
62.5°	262.8	264.1	264.7	259.0	268.2
65°	225.6	222.6	231.3	222.5	224.0
67.5°	191.4	192.9	192.0	186.5	188.6
70°	156.6	158.6	157.2	150.9	152.8
72.5°	124.9	122.5	124.0	116.1	119.8
75°	93.9	92.0	93.7	87.1	90.0
77.5°	63.9	65.4	64.4	60.8	62.9
80°	42.2	41.0	41.0	39.0	39.4
82.5°	24.6	23.4	23.1	22.5	23.4
85°	11.5	11.2	11.4	11.1	10.7
87.5°	4.2	4.3	4.3	4.0	3.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)