

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: P562990

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562990  
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-LD4-2STD-40-UNV-93-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

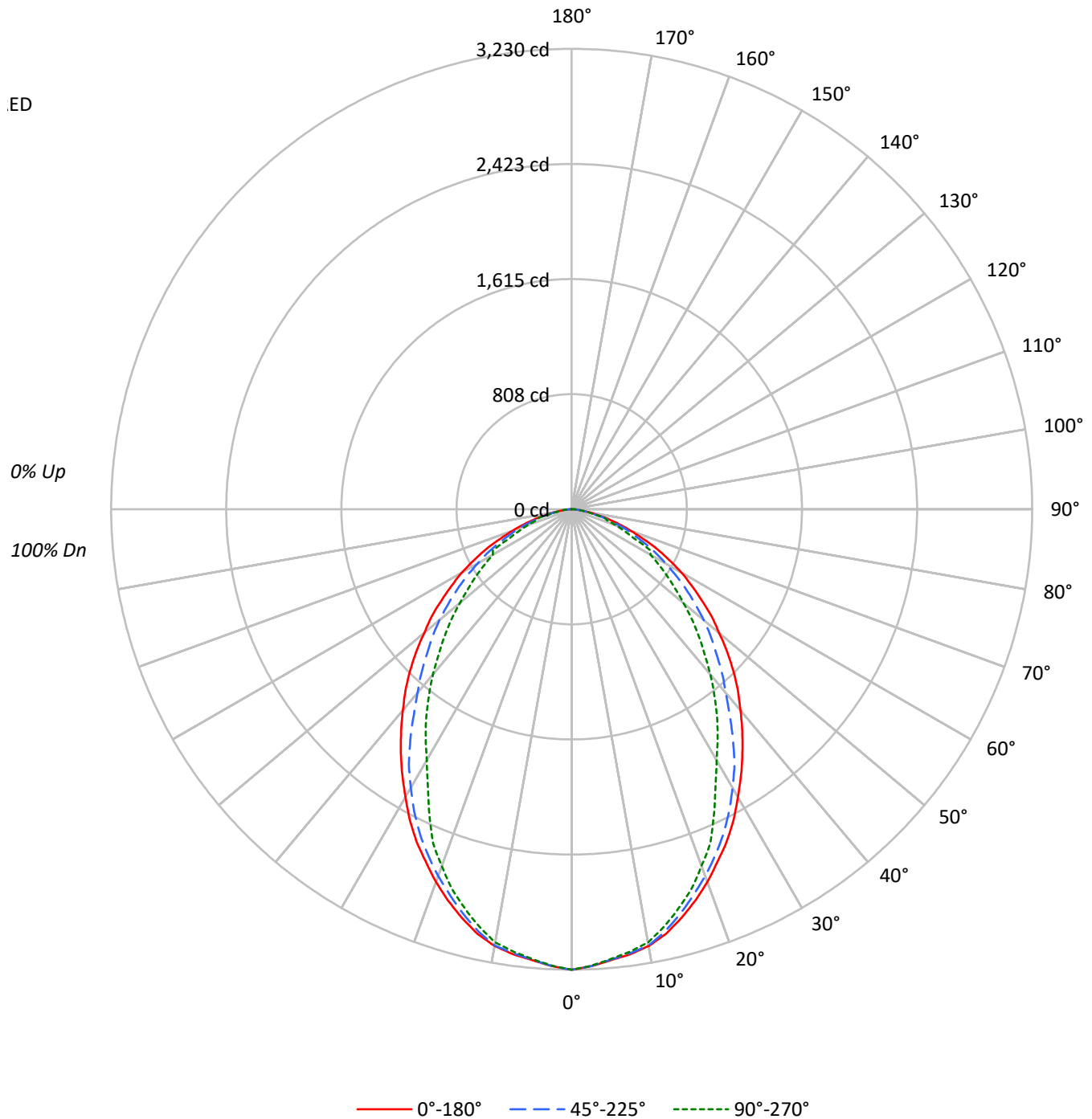
Lumens per Lamp: N/A  
Luminaire Lumens: 6342.0 lumens  
Efficiency: N/A  
Efficacy: 95.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

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

	0°	45°	90°
0°	4347	4347	4347
5°	4288	4283	4277
10°	4250	4245	4215
15°	4136	4094	4037
20°	3984	3920	3813
25°	3820	3737	3504
30°	3621	3505	3157
35°	3429	3239	2920
40°	3234	2952	2657
45°	3049	2729	2402
50°	2822	2533	2142
55°	2611	2295	1919
60°	2392	2050	1718
65°	2104	1795	1522
70°	1734	1572	1293
75°	1379	1204	1262
80°	926	868	810
85°	576	692	807

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3049 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	300.7	4.7
10°-20°	825.3	13.0
20°-30°	1142.6	18.0
30°-40°	1218.3	19.2
40°-50°	1111.4	17.5
50°-60°	870.7	13.7
60°-70°	567.5	8.9
70°-80°	251.4	4.0
80°-90°	54.0	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°	2268.6	35.8
0°-40°	3486.9	55.0
0°-60°	5469.1	86.2
0°-90°	6342.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6342.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3230	3230	3230	3230	3230	
5°	3174	3171	3171	3167	3167	301
15°	2969	2969	2939	2909	2898	835
25°	2573	2558	2517	2428	2360	1181
35°	2088	2073	1972	1822	1778	1305
45°	1602	1569	1434	1315	1262	1234
55°	1113	1079	978	863	818	998
65°	661	624	564	575	478	651
75°	265	246	232	220	243	284
85°	37	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°	3230.5	3230.5	3230.5	3230.5	3230.5
2.5°	3208.1	3208.1	3208.1	3204.4	3204.4
5°	3174.5	3170.8	3170.8	3167.0	3167.0
7.5°	3148.4	3144.6	3140.9	3137.2	3129.7
10°	3111.0	3111.0	3107.3	3088.6	3084.9
12.5°	3051.3	3047.5	3032.6	3006.4	2999.0
15°	2969.1	2969.1	2939.2	2909.3	2898.1
17.5°	2879.5	2875.7	2838.4	2808.5	2793.6
20°	2782.4	2774.9	2737.5	2689.0	2662.9
22.5°	2674.1	2674.1	2629.2	2565.8	2539.6
25°	2573.2	2558.3	2517.2	2427.6	2360.3
27.5°	2457.4	2435.0	2390.2	2263.2	2184.8
30°	2330.5	2319.3	2255.8	2091.4	2031.7
32.5°	2211.0	2192.3	2125.1	1953.3	1904.7
35°	2087.7	2072.8	1971.9	1822.5	1777.7
37.5°	1964.5	1945.8	1818.8	1699.3	1643.3
40°	1841.2	1818.8	1680.6	1572.3	1512.6
42.5°	1725.4	1695.6	1561.1	1445.3	1378.1
45°	1602.2	1568.6	1434.1	1314.6	1262.3
47.5°	1478.9	1449.1	1325.8	1202.6	1142.8
50°	1348.2	1322.1	1210.0	1086.8	1023.3
52.5°	1239.9	1198.8	1090.5	967.3	915.0
55°	1112.9	1079.3	978.5	862.7	817.9
57.5°	997.2	963.6	870.2	761.9	724.5
60°	888.9	840.3	761.9	668.5	638.6
62.5°	769.4	732.0	664.8	586.4	623.7
65°	661.0	623.7	563.9	575.1	478.0
67.5°	541.5	522.9	470.6	418.3	403.3
70°	440.7	418.3	399.6	343.6	328.7
72.5°	351.1	328.7	302.5	272.6	261.4
75°	265.2	246.5	231.6	220.3	242.8
77.5°	183.0	175.5	164.3	153.1	149.4
80°	119.5	115.8	112.0	108.3	104.6
82.5°	71.0	71.0	71.0	71.0	71.0
85°	37.3	41.1	44.8	48.6	52.3
87.5°	22.4	22.4	26.1	29.9	33.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)