

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: P562946

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562946
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-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6167.0 lumens
Efficiency: N/A
Efficacy: 92.6 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

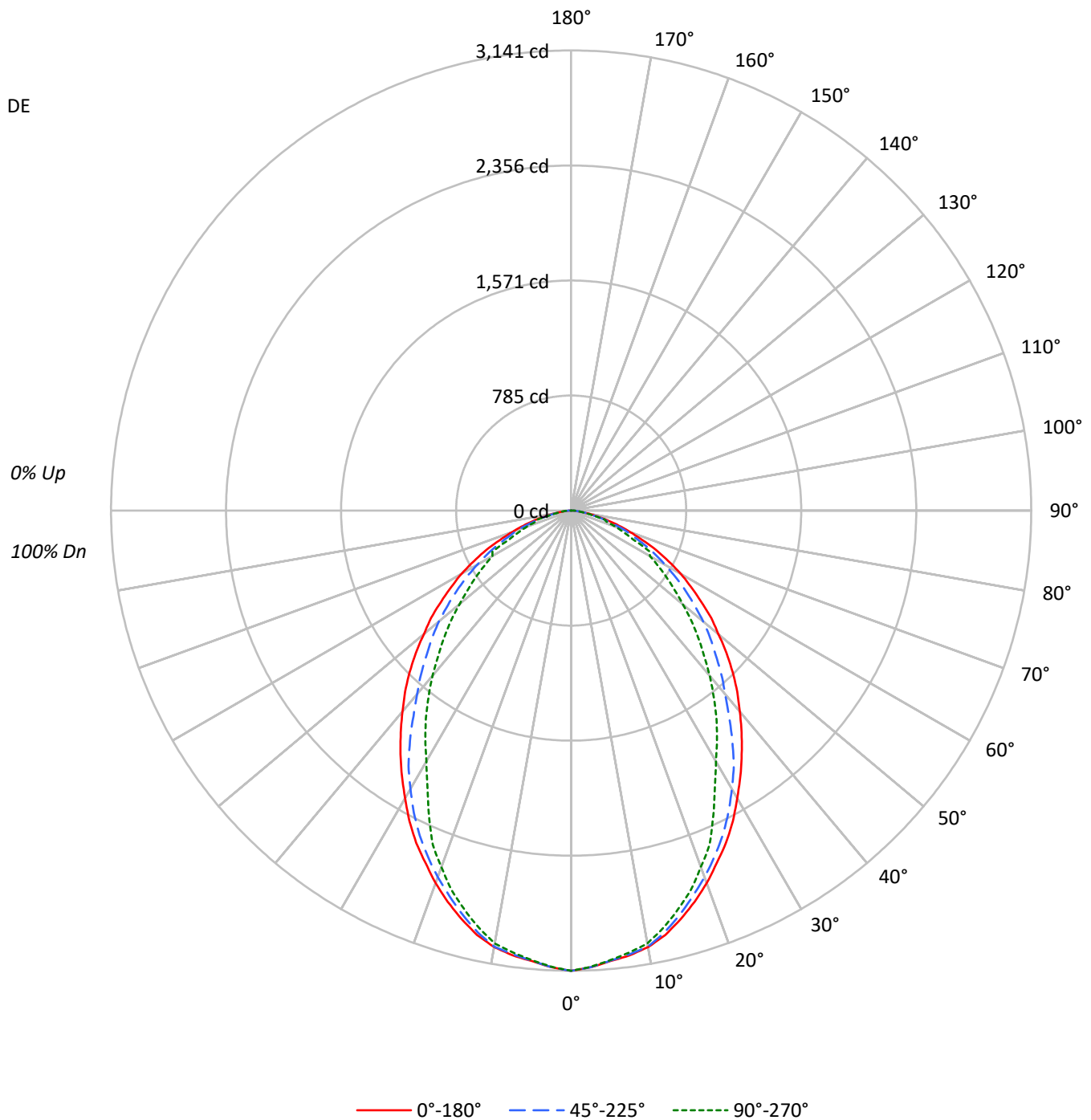
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4227	4227	4227
5°	4169	4164	4159
10°	4133	4128	4098
15°	4022	3981	3926
20°	3874	3812	3708
25°	3715	3634	3407
30°	3521	3408	3069
35°	3335	3150	2839
40°	3145	2870	2583
45°	2965	2654	2336
50°	2744	2463	2083
55°	2539	2232	1866
60°	2326	1994	1671
65°	2046	1746	1480
70°	1686	1529	1257
75°	1340	1171	1227
80°	900	844	788
85°	560	673	784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2965 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	292.4	4.7
10°-20°	802.5	13.0
20°-30°	1111.0	18.0
30°-40°	1184.7	19.2
40°-50°	1080.8	17.5
50°-60°	846.7	13.7
60°-70°	551.8	8.9
70°-80°	244.5	4.0
80°-90°	52.5	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°	2206.0	35.8
0°-40°	3390.7	55.0
0°-60°	5318.2	86.2
0°-90°	6167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3141	3141	3141	3141	3141	
5°	3087	3083	3083	3080	3080	293
15°	2887	2887	2858	2829	2818	812
25°	2502	2488	2448	2361	2295	1149
35°	2030	2016	1918	1772	1729	1269
45°	1558	1525	1395	1278	1228	1200
55°	1082	1050	952	839	795	971
65°	643	606	548	559	465	633
75°	258	240	225	214	236	276
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3141.4	3141.4	3141.4	3141.4	3141.4
2.5°	3119.6	3119.6	3119.6	3116.0	3116.0
5°	3086.9	3083.3	3083.3	3079.6	3079.6
7.5°	3061.5	3057.9	3054.2	3050.6	3043.3
10°	3025.2	3025.2	3021.5	3003.4	2999.8
12.5°	2967.1	2963.4	2948.9	2923.5	2916.2
15°	2887.2	2887.2	2858.1	2829.1	2818.2
17.5°	2800.0	2796.4	2760.1	2731.0	2716.5
20°	2705.6	2698.3	2662.0	2614.8	2589.4
22.5°	2600.3	2600.3	2556.7	2495.0	2469.5
25°	2502.2	2487.7	2447.7	2360.6	2295.2
27.5°	2389.6	2367.8	2324.3	2200.8	2124.5
30°	2266.2	2255.3	2193.5	2033.7	1975.6
32.5°	2149.9	2131.8	2066.4	1899.4	1852.1
35°	2030.1	2015.6	1917.5	1772.3	1728.7
37.5°	1910.3	1892.1	1768.6	1652.4	1597.9
40°	1790.4	1768.6	1634.2	1528.9	1470.8
42.5°	1677.8	1648.8	1518.0	1405.5	1340.1
45°	1558.0	1525.3	1394.6	1278.3	1227.5
47.5°	1438.1	1409.1	1289.2	1169.4	1111.3
50°	1311.0	1285.6	1176.7	1056.8	995.1
52.5°	1205.7	1165.8	1060.4	940.6	889.8
55°	1082.2	1049.6	951.5	838.9	795.3
57.5°	969.7	937.0	846.2	740.9	704.5
60°	864.3	817.1	740.9	650.1	621.0
62.5°	748.1	711.8	646.4	570.2	606.5
65°	642.8	606.5	548.4	559.3	464.9
67.5°	526.6	508.4	457.6	406.7	392.2
70°	428.5	406.7	388.6	334.1	319.6
72.5°	341.4	319.6	294.2	265.1	254.2
75°	257.8	239.7	225.2	214.3	236.1
77.5°	178.0	170.7	159.8	148.9	145.3
80°	116.2	112.6	108.9	105.3	101.7
82.5°	69.0	69.0	69.0	69.0	69.0
85°	36.3	39.9	43.6	47.2	50.8
87.5°	21.8	21.8	25.4	29.1	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)