

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: P563546

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563546
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-LD4-3STD-40-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9261.0 lumens
Efficiency: N/A
Efficacy: 92.7 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

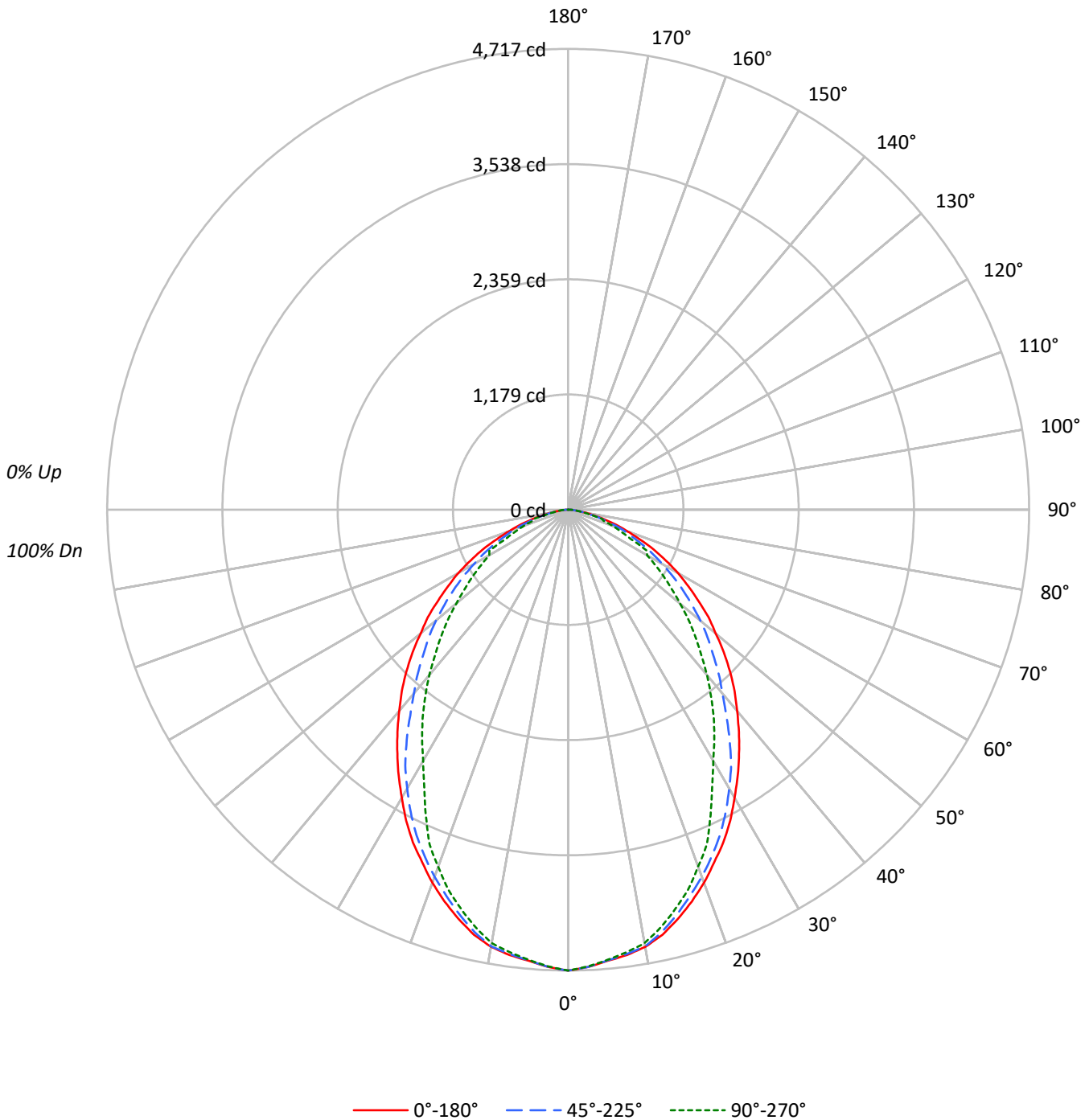
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6347	6347	6347
5°	6261	6254	6246
10°	6207	6199	6155
15°	6039	5979	5895
20°	5818	5724	5568
25°	5578	5457	5117
30°	5287	5118	4609
35°	5007	4730	4264
40°	4722	4311	3879
45°	4452	3985	3507
50°	4121	3699	3128
55°	3812	3352	2802
60°	3493	2994	2510
65°	3073	2622	2223
70°	2531	2295	1888
75°	2013	1758	1843
80°	1352	1268	1183
85°	841	1010	1179

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4452 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.1	4.7
10°-20°	1205.2	13.0
20°-30°	1668.5	18.0
30°-40°	1779.1	19.2
40°-50°	1623.0	17.5
50°-60°	1271.5	13.7
60°-70°	828.7	8.9
70°-80°	367.1	4.0
80°-90°	78.8	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°	3312.7	35.8
0°-40°	5091.8	55.0
0°-60°	7986.3	86.2
0°-90°	9261.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9261.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4717	4717	4717	4717	4717	
5°	4636	4630	4630	4625	4625	440
15°	4336	4336	4292	4248	4232	1219
25°	3758	3736	3676	3545	3447	1725
35°	3049	3027	2880	2661	2596	1906
45°	2340	2290	2094	1920	1843	1802
55°	1625	1576	1429	1260	1194	1458
65°	965	911	824	840	698	951
75°	387	360	338	322	354	415
85°	54	60	65	71	76	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4717.4	4717.4	4717.4	4717.4	4717.4
2.5°	4684.7	4684.7	4684.7	4679.3	4679.3
5°	4635.6	4630.2	4630.2	4624.7	4624.7
7.5°	4597.4	4592.0	4586.5	4581.1	4570.2
10°	4542.9	4542.9	4537.5	4510.2	4504.7
12.5°	4455.7	4450.2	4428.4	4390.2	4379.3
15°	4335.7	4335.7	4292.0	4248.4	4232.1
17.5°	4204.8	4199.3	4144.8	4101.2	4079.3
20°	4063.0	4052.1	3997.5	3926.6	3888.5
22.5°	3904.8	3904.8	3839.4	3746.7	3708.5
25°	3757.6	3735.8	3675.8	3544.9	3446.7
27.5°	3588.5	3555.8	3490.4	3304.9	3190.4
30°	3403.1	3386.7	3294.0	3054.1	2966.8
32.5°	3228.6	3201.3	3103.1	2852.3	2781.4
35°	3048.6	3026.8	2879.5	2661.4	2595.9
37.5°	2868.6	2841.4	2655.9	2481.4	2399.6
40°	2688.7	2655.9	2454.2	2296.0	2208.7
42.5°	2519.6	2476.0	2279.6	2110.6	2012.4
45°	2339.6	2290.5	2094.2	1919.7	1843.3
47.5°	2159.7	2116.0	1936.1	1756.1	1668.8
50°	1968.8	1930.6	1767.0	1587.0	1494.3
52.5°	1810.6	1750.6	1592.5	1412.5	1336.2
55°	1625.2	1576.1	1428.9	1259.8	1194.4
57.5°	1456.1	1407.0	1270.7	1112.5	1058.0
60°	1298.0	1227.1	1112.5	976.2	932.6
62.5°	1123.5	1068.9	970.8	856.2	910.8
65°	965.3	910.8	823.5	839.9	698.1
67.5°	790.8	763.5	687.2	610.8	589.0
70°	643.5	610.8	583.5	501.7	479.9
72.5°	512.6	479.9	441.7	398.1	381.8
75°	387.2	359.9	338.1	321.8	354.5
77.5°	267.2	256.3	240.0	223.6	218.1
80°	174.5	169.1	163.6	158.2	152.7
82.5°	103.6	103.6	103.6	103.6	103.6
85°	54.5	60.0	65.4	70.9	76.4
87.5°	32.7	32.7	38.2	43.6	49.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)