

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: P564136

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564136
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-LD4-4STD-40-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11207.0 lumens
Efficiency: N/A
Efficacy: 84.1 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

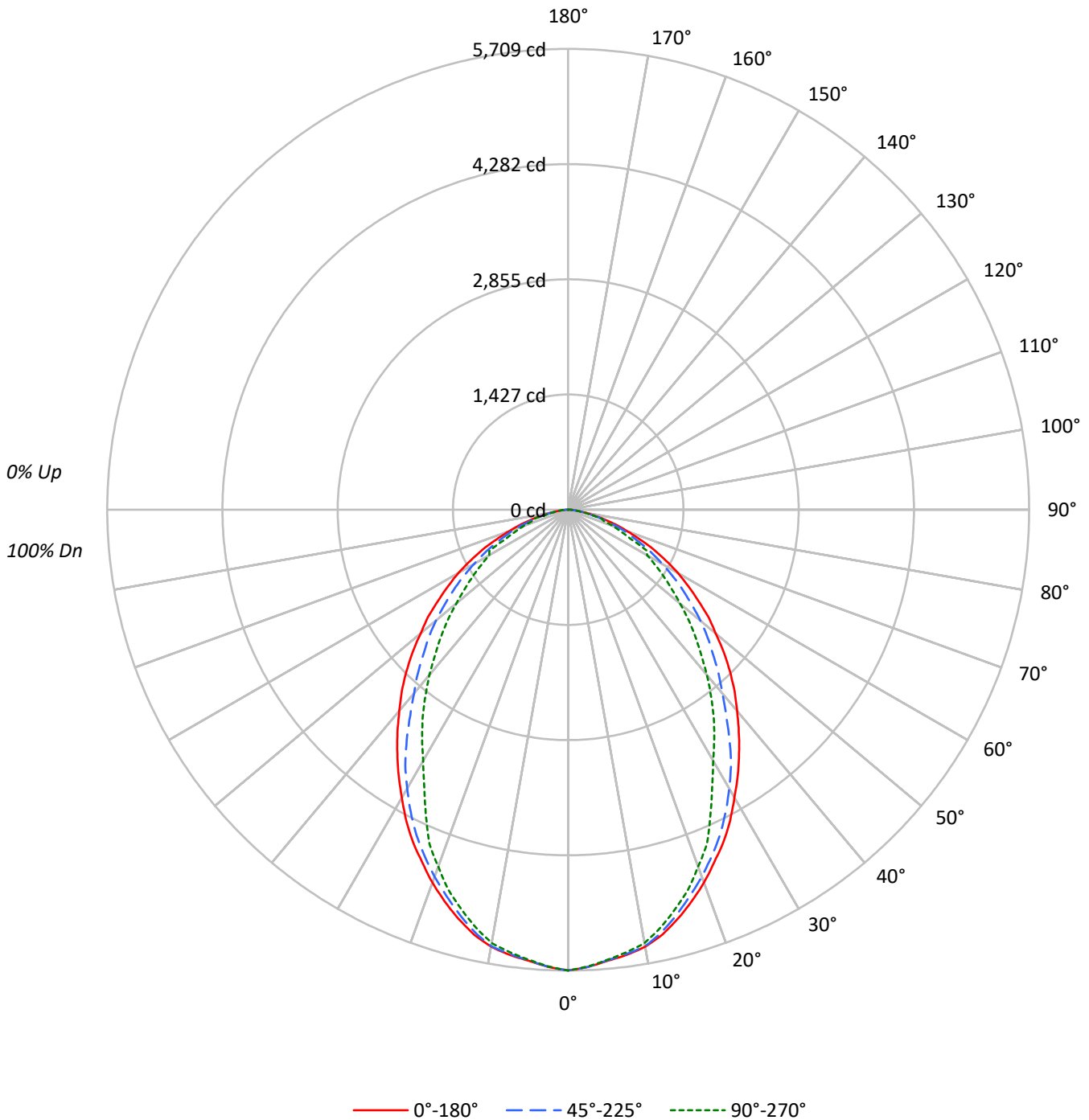
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77					75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67					65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58					56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52					50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46					44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42					40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38					36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34					33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32					30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7681	7681	7681
5°	7577	7568	7559
10°	7511	7502	7448
15°	7308	7235	7134
20°	7040	6927	6738
25°	6751	6604	6192
30°	6398	6193	5578
35°	6060	5724	5160
40°	5715	5216	4695
45°	5387	4822	4245
50°	4987	4476	3785
55°	4613	4056	3390
60°	4227	3623	3037
65°	3719	3173	2690
70°	3064	2778	2285
75°	2436	2127	2230
80°	1636	1534	1432
85°	1019	1223	1426

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5387 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	531.4	4.7
10°-20°	1458.4	13.0
20°-30°	2019.0	18.0
30°-40°	2152.9	19.2
40°-50°	1964.1	17.5
50°-60°	1538.7	13.7
60°-70°	1002.8	8.9
70°-80°	444.3	4.0
80°-90°	95.4	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°	4008.8	35.8
0°-40°	6161.7	55.0
0°-60°	9664.5	86.2
0°-90°	11207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5709	5709	5709	5709	5709	
5°	5610	5603	5603	5596	5596	532
15°	5247	5247	5194	5141	5121	1475
25°	4547	4521	4448	4290	4171	2088
35°	3689	3663	3485	3221	3141	2306
45°	2831	2772	2534	2323	2231	2181
55°	1967	1907	1729	1524	1445	1764
65°	1168	1102	996	1016	845	1151
75°	469	436	409	389	429	502
85°	66	73	79	86	92	92
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5708.7	5708.7	5708.7	5708.7	5708.7
2.5°	5669.1	5669.1	5669.1	5662.5	5662.5
5°	5609.7	5603.1	5603.1	5596.5	5596.5
7.5°	5563.5	5556.9	5550.3	5543.7	5530.5
10°	5497.5	5497.5	5490.9	5457.9	5451.3
12.5°	5391.9	5385.3	5358.9	5312.7	5299.5
15°	5246.7	5246.7	5193.9	5141.1	5121.3
17.5°	5088.3	5081.7	5015.7	4962.9	4936.5
20°	4916.7	4903.5	4837.5	4751.7	4705.5
22.5°	4725.3	4725.3	4646.2	4534.0	4487.8
25°	4547.2	4520.8	4448.2	4289.8	4171.0
27.5°	4342.6	4303.0	4223.8	3999.4	3860.8
30°	4118.2	4098.4	3986.2	3695.8	3590.2
32.5°	3907.0	3874.0	3755.2	3451.6	3365.8
35°	3689.2	3662.8	3484.6	3220.6	3141.4
37.5°	3471.4	3438.4	3214.0	3002.8	2903.8
40°	3253.6	3214.0	2969.8	2778.5	2672.9
42.5°	3049.0	2996.2	2758.7	2554.1	2435.3
45°	2831.2	2771.9	2534.3	2323.1	2230.7
47.5°	2613.5	2560.7	2342.9	2125.1	2019.5
50°	2382.5	2336.3	2138.3	1920.5	1808.3
52.5°	2191.1	2118.5	1927.1	1709.3	1616.9
55°	1966.7	1907.3	1729.1	1524.5	1445.3
57.5°	1762.1	1702.7	1537.7	1346.3	1280.3
60°	1570.7	1484.9	1346.3	1181.3	1128.5
62.5°	1359.5	1293.5	1174.7	1036.1	1102.1
65°	1168.1	1102.1	996.5	1016.3	844.8
67.5°	956.9	924.0	831.6	739.2	712.8
70°	778.8	739.2	706.2	607.2	580.8
72.5°	620.4	580.8	534.6	481.8	462.0
75°	468.6	435.6	409.2	389.4	429.0
77.5°	323.4	310.2	290.4	270.6	264.0
80°	211.2	204.6	198.0	191.4	184.8
82.5°	125.4	125.4	125.4	125.4	125.4
85°	66.0	72.6	79.2	85.8	92.4
87.5°	39.6	39.6	46.2	52.8	59.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)