

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: P564107

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564107
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-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15012.0 lumens
Efficiency: N/A
Efficacy: 112.7 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

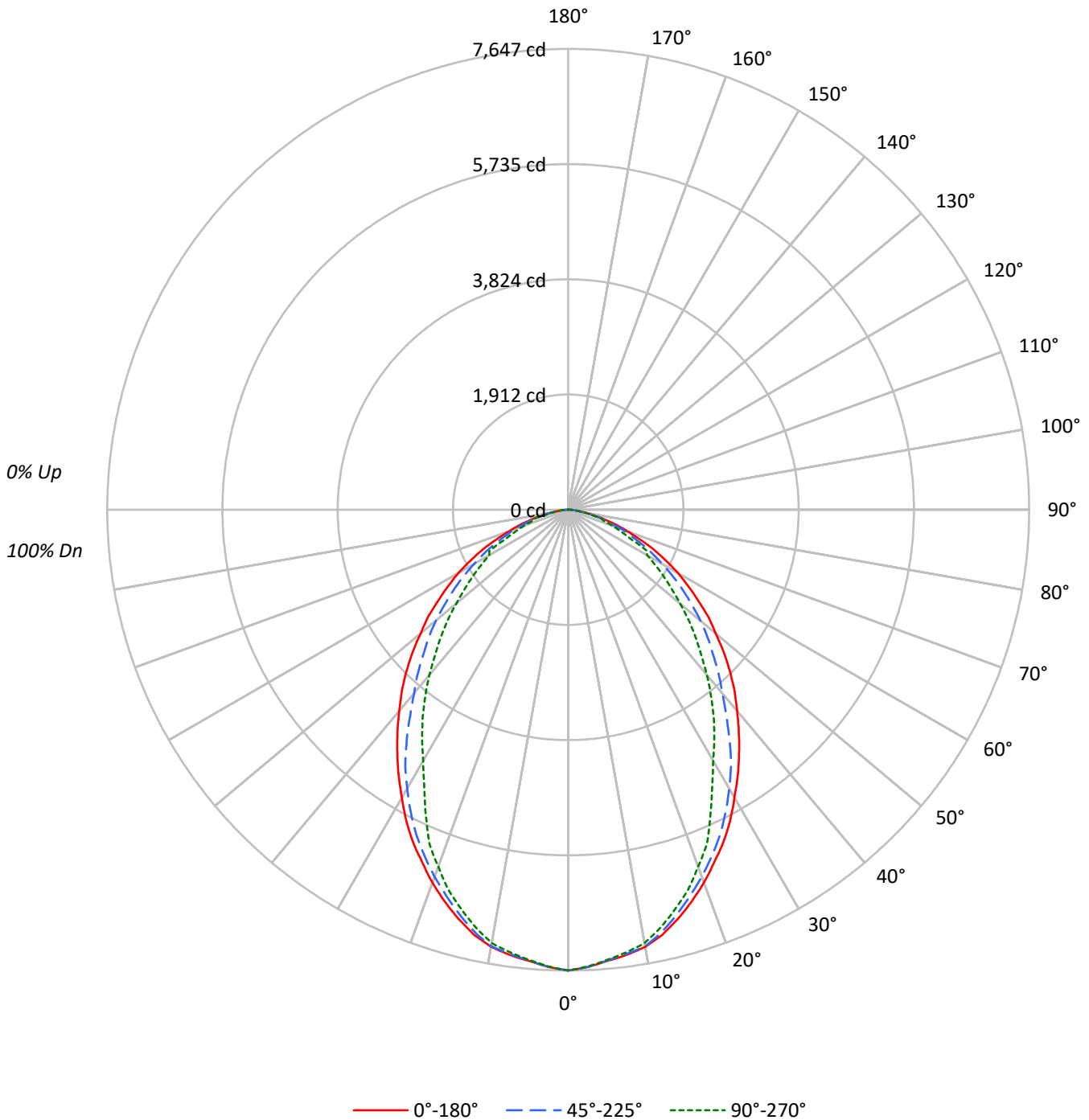
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	10289	10289	10289
5°	10149	10137	10125
10°	10061	10049	9976
15°	9790	9691	9556
20°	9430	9278	9025
25°	9043	8846	8295
30°	8570	8296	7472
35°	8117	7667	6912
40°	7655	6987	6288
45°	7216	6459	5686
50°	6680	5996	5070
55°	6180	5433	4541
60°	5662	4853	4068
65°	4982	4250	3603
70°	4104	3721	3061
75°	3263	2849	2987
80°	2192	2055	1918
85°	1365	1638	1911

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7216 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	711.8	4.7
10°-20°	1953.5	13.0
20°-30°	2704.5	18.0
30°-40°	2883.8	19.2
40°-50°	2630.9	17.5
50°-60°	2061.1	13.7
60°-70°	1343.3	8.9
70°-80°	595.2	4.0
80°-90°	127.8	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°	5369.9	35.8
0°-40°	8253.8	55.0
0°-60°	12945.8	86.2
0°-90°	15012.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15012.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7647	7647	7647	7647	7647	
5°	7514	7506	7506	7497	7497	713
15°	7028	7028	6957	6887	6860	1976
25°	6091	6056	5958	5746	5587	2796
35°	4942	4906	4668	4314	4208	3090
45°	3792	3713	3395	3112	2988	2921
55°	2634	2555	2316	2042	1936	2363
65°	1565	1476	1335	1361	1132	1542
75°	628	584	548	522	575	673
85°	88	97	106	115	124	123
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7646.9	7646.9	7646.9	7646.9	7646.9
2.5°	7593.9	7593.9	7593.9	7585.0	7585.0
5°	7514.3	7505.5	7505.5	7496.6	7496.6
7.5°	7452.4	7443.6	7434.7	7425.9	7408.2
10°	7364.0	7364.0	7355.2	7311.0	7302.1
12.5°	7222.6	7213.7	7178.4	7116.5	7098.8
15°	7028.1	7028.1	6957.4	6886.6	6860.1
17.5°	6815.9	6807.1	6718.7	6648.0	6612.6
20°	6586.1	6568.4	6480.0	6365.1	6303.2
22.5°	6329.7	6329.7	6223.6	6073.3	6011.4
25°	6091.0	6055.6	5958.4	5746.2	5587.1
27.5°	5817.0	5763.9	5657.8	5357.3	5171.6
30°	5516.4	5489.9	5339.6	4950.6	4809.2
32.5°	5233.5	5189.3	5030.2	4623.5	4508.6
35°	4941.8	4906.4	4667.7	4314.1	4208.0
37.5°	4650.0	4605.8	4305.3	4022.4	3889.8
40°	4358.3	4305.3	3978.2	3721.8	3580.3
42.5°	4084.2	4013.5	3695.3	3421.2	3262.1
45°	3792.5	3713.0	3394.7	3111.8	2988.0
47.5°	3500.8	3430.1	3138.3	2846.6	2705.2
50°	3191.4	3129.5	2864.3	2572.5	2422.3
52.5°	2935.0	2837.8	2581.4	2289.7	2165.9
55°	2634.4	2554.9	2316.2	2042.1	1936.0
57.5°	2360.4	2280.8	2059.8	1803.4	1715.0
60°	2104.0	1989.1	1803.4	1582.4	1511.7
62.5°	1821.1	1732.7	1573.6	1387.9	1476.3
65°	1564.7	1476.3	1334.9	1361.4	1131.6
67.5°	1281.9	1237.7	1113.9	990.1	954.8
70°	1043.2	990.1	945.9	813.3	778.0
72.5°	831.0	778.0	716.1	645.3	618.8
75°	627.7	583.5	548.1	521.6	574.6
77.5°	433.2	415.5	389.0	362.5	353.6
80°	282.9	274.1	265.2	256.4	247.5
82.5°	168.0	168.0	168.0	168.0	168.0
85°	88.4	97.2	106.1	114.9	123.8
87.5°	53.0	53.0	61.9	70.7	79.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)