

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: P590383

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590383
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2STD-40-UNV-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3827.0 lumens
Efficiency: N/A
Efficacy: 114.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

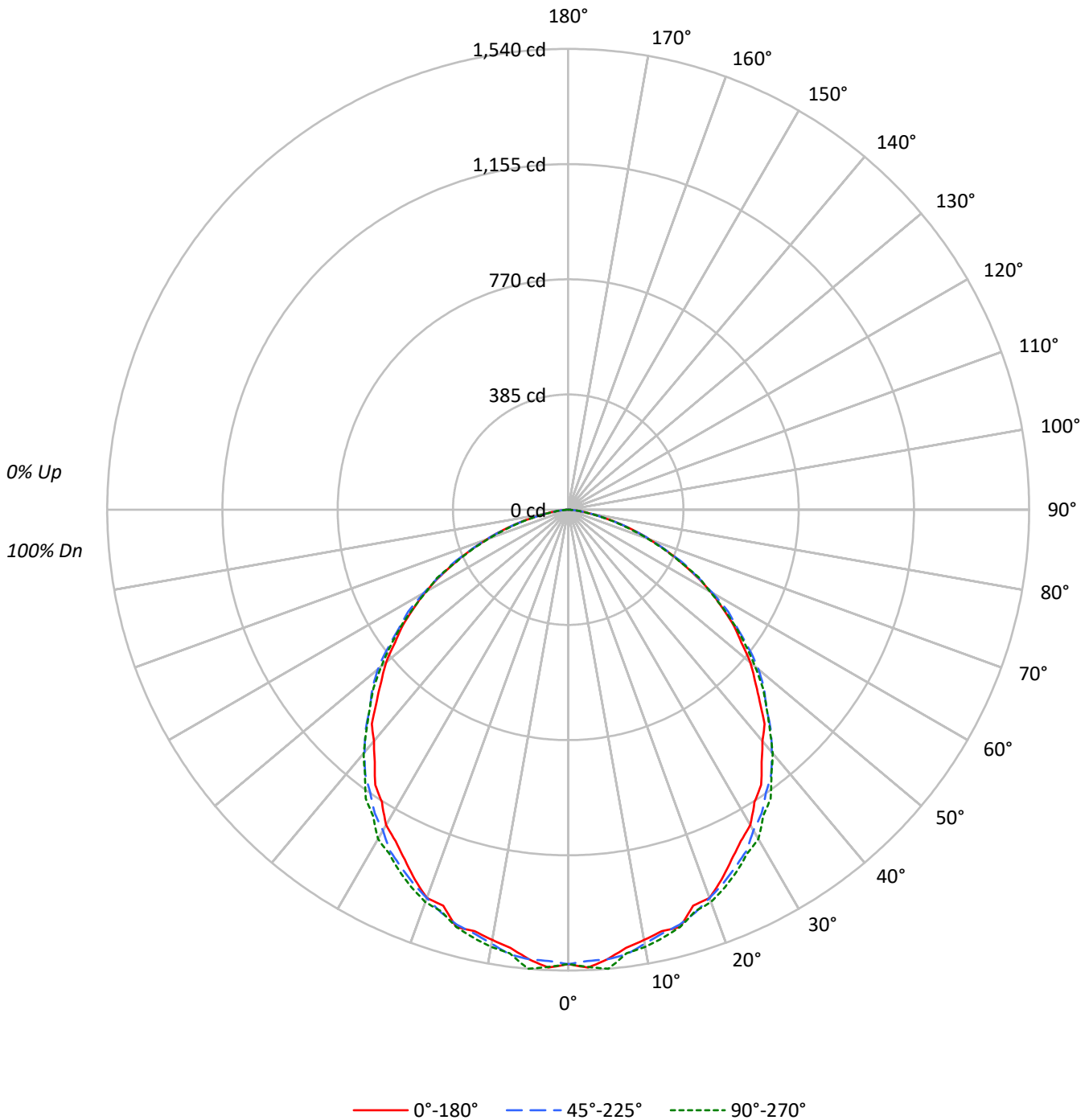
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4086	4086	4086
5°	4073	4074	4160
10°	3990	4025	4053
15°	4022	4000	4022
20°	3954	3954	3996
25°	3832	3916	3959
30°	3779	3846	3948
35°	3690	3787	3872
40°	3547	3718	3734
45°	3440	3562	3567
50°	3327	3477	3410
55°	3170	3231	3208
60°	2964	2993	2940
65°	2643	2710	2624
70°	2268	2275	2212
75°	1796	1791	1723
80°	1203	1170	1124
85°	655	648	605

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3654 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.8	3.7
10°-20°	404.8	10.6
20°-30°	606.5	15.8
30°-40°	718.8	18.8
40°-50°	720.1	18.8
50°-60°	611.3	16.0
60°-70°	412.1	10.8
70°-80°	181.1	4.7
80°-90°	29.4	0.8
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°	1154.1	30.2
0°-40°	1872.9	48.9
0°-60°	3204.4	83.7
0°-90°	3827.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3827.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1518	1518	1518	1518	1518	
5°	1508	1504	1508	1504	1540	142
15°	1444	1427	1436	1443	1444	402
25°	1291	1298	1319	1336	1333	597
35°	1123	1127	1153	1180	1179	697
45°	904	921	936	960	937	699
55°	676	671	689	684	684	601
65°	415	410	426	409	412	413
75°	173	169	172	160	166	185
85°	21	21	21	20	20	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1518.5	1518.5	1518.5	1518.5	1518.5
2.5°	1531.6	1520.0	1509.2	1521.8	1529.4
5°	1507.7	1504.1	1508.3	1503.8	1540.0
7.5°	1476.7	1490.2	1498.1	1493.2	1495.3
10°	1460.2	1455.5	1473.0	1485.1	1483.4
12.5°	1442.6	1449.6	1450.6	1463.8	1464.9
15°	1443.6	1426.9	1435.7	1443.2	1443.8
17.5°	1387.5	1405.5	1411.6	1428.7	1407.5
20°	1380.6	1367.5	1380.6	1398.1	1395.3
22.5°	1338.5	1323.8	1352.0	1367.5	1366.5
25°	1290.6	1297.7	1318.9	1336.1	1333.4
27.5°	1248.7	1256.9	1287.1	1310.8	1295.5
30°	1216.3	1212.2	1237.7	1258.9	1270.6
32.5°	1158.5	1173.4	1203.2	1224.2	1213.0
35°	1123.4	1126.7	1152.8	1179.5	1178.7
37.5°	1062.0	1077.5	1114.2	1121.6	1114.8
40°	1009.7	1025.2	1058.3	1066.4	1063.0
42.5°	971.1	973.8	1002.2	1011.5	996.8
45°	903.8	920.7	936.0	960.1	937.3
47.5°	846.6	854.4	887.4	893.8	881.9
50°	794.6	797.4	830.5	822.5	814.6
52.5°	729.3	740.9	759.5	758.0	748.7
55°	675.6	671.1	688.7	684.0	683.8
57.5°	611.1	619.0	633.5	626.0	614.0
60°	550.7	550.9	556.2	547.8	546.2
62.5°	483.5	485.8	487.0	476.6	493.5
65°	415.1	409.6	425.6	409.4	412.1
67.5°	352.1	354.9	353.3	343.1	347.0
70°	288.2	291.7	289.2	277.6	281.1
72.5°	229.8	225.5	228.2	213.7	220.4
75°	172.7	169.2	172.3	160.2	165.7
77.5°	117.6	120.4	118.4	111.9	115.7
80°	77.6	75.5	75.5	71.8	72.5
82.5°	45.3	43.1	42.5	41.4	43.1
85°	21.2	20.6	21.0	20.4	19.6
87.5°	7.6	7.8	7.8	7.5	7.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)