

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: P590384

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590384
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-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3703.0 lumens
Efficiency: N/A
Efficacy: 111.2 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

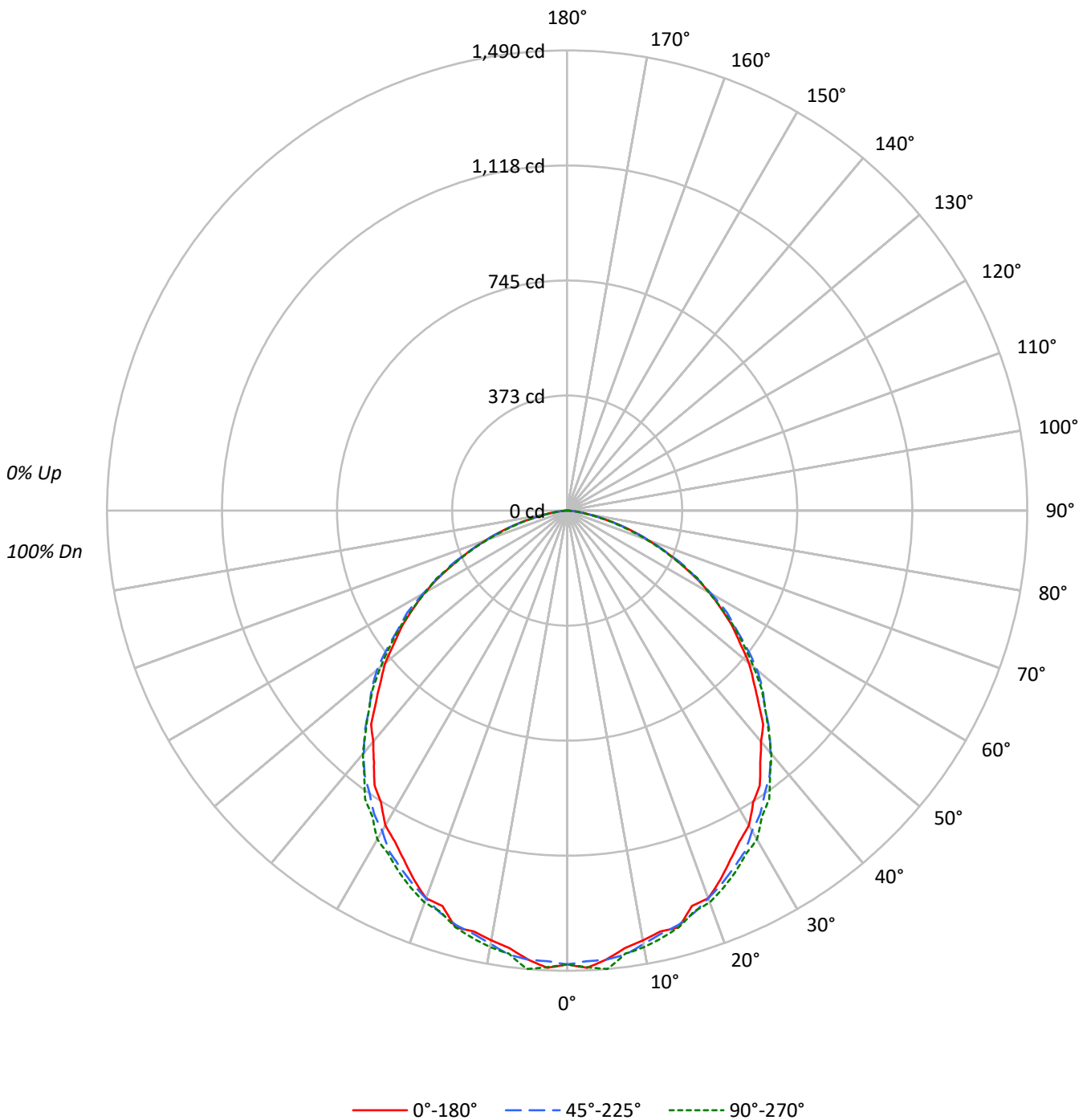
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3954	3954	3954
5°	3941	3942	4025
10°	3861	3894	3922
15°	3891	3870	3892
20°	3826	3826	3866
25°	3708	3789	3831
30°	3657	3721	3820
35°	3571	3665	3747
40°	3432	3597	3613
45°	3328	3446	3452
50°	3219	3364	3300
55°	3067	3126	3104
60°	2868	2897	2844
65°	2557	2622	2539
70°	2194	2201	2140
75°	1737	1733	1667
80°	1164	1131	1088
85°	633	627	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3535 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	3.7
10°-20°	391.7	10.6
20°-30°	586.8	15.8
30°-40°	695.5	18.8
40°-50°	696.8	18.8
50°-60°	591.5	16.0
60°-70°	398.8	10.8
70°-80°	175.2	4.7
80°-90°	28.5	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°	1116.7	30.2
0°-40°	1812.3	48.9
0°-60°	3100.5	83.7
0°-90°	3703.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3703.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1469	1469	1469	1469	1469	
5°	1459	1455	1459	1455	1490	138
15°	1397	1381	1389	1396	1397	389
25°	1249	1256	1276	1293	1290	577
35°	1087	1090	1116	1141	1140	675
45°	874	891	906	929	907	676
55°	654	649	666	662	662	582
65°	402	396	412	396	399	399
75°	167	164	167	155	160	179
85°	20	20	20	20	19	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1469.3	1469.3	1469.3	1469.3	1469.3
2.5°	1482.0	1470.8	1460.3	1472.5	1479.9
5°	1458.8	1455.4	1459.4	1455.0	1490.1
7.5°	1428.8	1441.9	1449.5	1444.8	1446.9
10°	1412.9	1408.4	1425.2	1437.0	1435.3
12.5°	1395.8	1402.7	1403.6	1416.3	1417.5
15°	1396.8	1380.7	1389.2	1396.4	1397.0
17.5°	1342.5	1360.0	1365.9	1382.4	1361.9
20°	1335.9	1323.2	1335.9	1352.8	1350.1
22.5°	1295.1	1280.9	1308.2	1323.2	1322.2
25°	1248.8	1255.7	1276.1	1292.8	1290.2
27.5°	1208.2	1216.2	1245.4	1268.4	1253.6
30°	1176.9	1172.9	1197.6	1218.1	1229.5
32.5°	1121.0	1135.4	1164.2	1184.5	1173.7
35°	1087.0	1090.2	1115.5	1141.3	1140.5
37.5°	1027.6	1042.6	1078.1	1085.3	1078.7
40°	977.0	992.0	1024.0	1031.8	1028.6
42.5°	939.6	942.3	969.8	978.7	964.5
45°	874.5	890.8	905.6	929.0	907.0
47.5°	819.1	826.7	858.6	864.9	853.3
50°	768.9	771.5	803.6	795.8	788.2
52.5°	705.7	716.9	734.9	733.4	724.5
55°	653.7	649.4	666.4	661.9	661.7
57.5°	591.3	598.9	612.9	605.7	594.2
60°	532.9	533.1	538.2	530.0	528.5
62.5°	467.8	470.1	471.2	461.2	477.5
65°	401.6	396.3	411.8	396.1	398.8
67.5°	340.7	343.4	341.8	332.0	335.8
70°	278.9	282.3	279.8	268.6	272.0
72.5°	222.3	218.2	220.8	206.8	213.2
75°	167.1	163.7	166.7	155.0	160.3
77.5°	113.8	116.5	114.6	108.3	111.9
80°	75.1	73.0	73.0	69.4	70.2
82.5°	43.8	41.7	41.2	40.0	41.7
85°	20.5	19.9	20.3	19.7	19.0
87.5°	7.4	7.6	7.6	7.2	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)