

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: P590387

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590387
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-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3915.0 lumens
Efficiency: N/A
Efficacy: 117.6 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

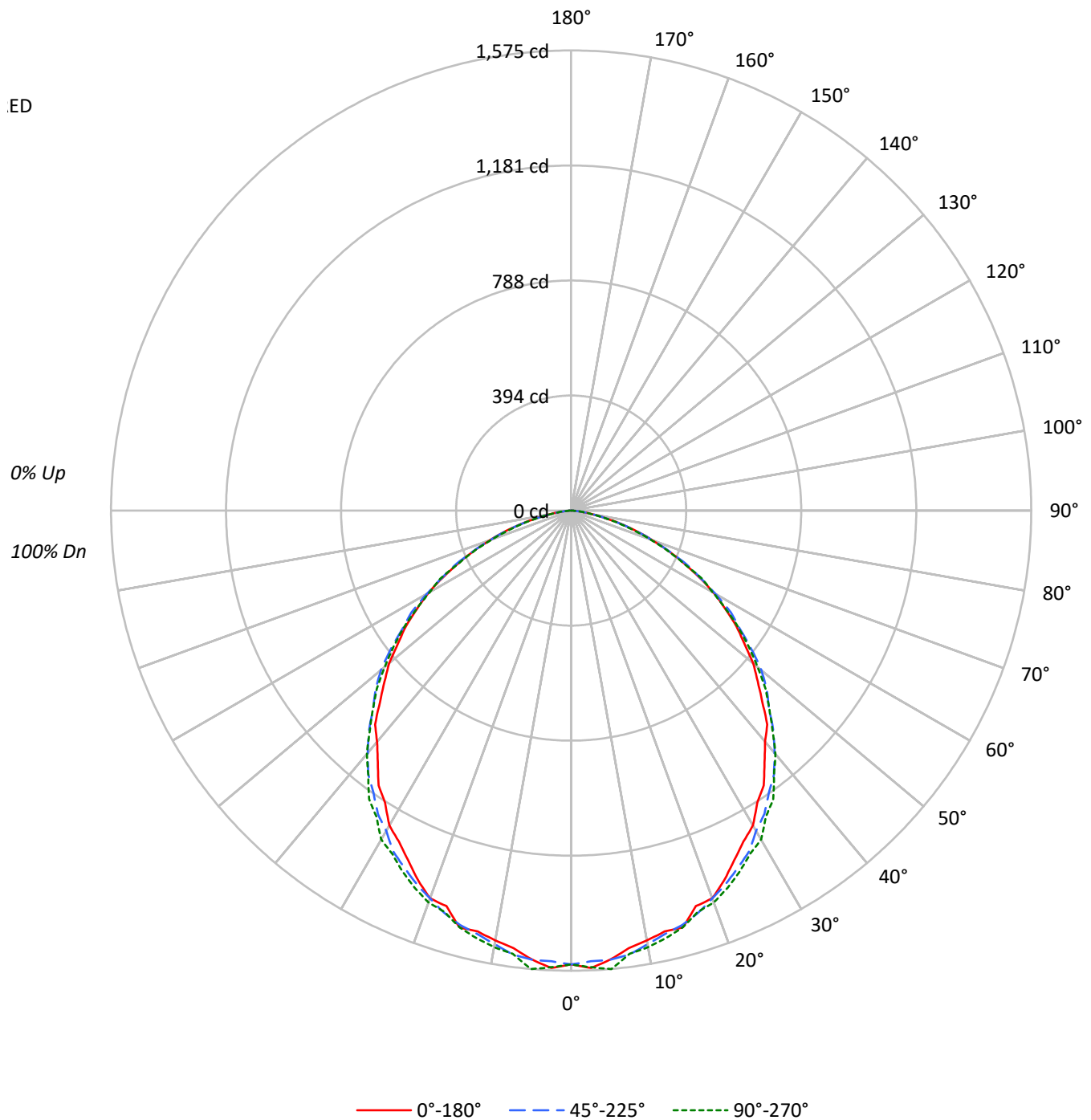
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4180	4180	4180
5°	4166	4168	4256
10°	4082	4117	4147
15°	4114	4092	4115
20°	4045	4045	4088
25°	3920	4006	4050
30°	3866	3934	4039
35°	3775	3874	3961
40°	3628	3803	3820
45°	3519	3644	3649
50°	3403	3557	3489
55°	3242	3306	3282
60°	3032	3062	3007
65°	2704	2772	2684
70°	2319	2327	2263
75°	1837	1833	1762
80°	1230	1196	1150
85°	670	664	621

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3738 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.1	3.7
10°-20°	414.1	10.6
20°-30°	620.4	15.8
30°-40°	735.3	18.8
40°-50°	736.7	18.8
50°-60°	625.3	16.0
60°-70°	421.6	10.8
70°-80°	185.2	4.7
80°-90°	30.1	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°	1180.7	30.2
0°-40°	1916.0	48.9
0°-60°	3278.0	83.7
0°-90°	3915.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3915.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1553	1553	1553	1553	1553	
5°	1542	1539	1543	1538	1575	145
15°	1477	1460	1469	1476	1477	411
25°	1320	1328	1349	1367	1364	610
35°	1149	1153	1179	1207	1206	714
45°	925	942	958	982	959	715
55°	691	686	705	700	700	615
65°	425	419	435	419	422	422
75°	177	173	176	164	170	189
85°	22	21	22	21	20	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1553.4	1553.4	1553.4	1553.4	1553.4
2.5°	1566.8	1555.0	1543.9	1556.8	1564.6
5°	1542.3	1538.7	1542.9	1538.3	1575.4
7.5°	1510.7	1524.5	1532.5	1527.5	1529.7
10°	1493.8	1489.0	1506.8	1519.3	1517.5
12.5°	1475.8	1483.0	1484.0	1497.4	1498.6
15°	1476.8	1459.7	1468.7	1476.4	1477.0
17.5°	1419.4	1437.8	1444.1	1461.5	1439.9
20°	1412.4	1398.9	1412.4	1430.2	1427.4
22.5°	1369.3	1354.2	1383.1	1398.9	1397.9
25°	1320.3	1327.5	1349.2	1366.8	1364.0
27.5°	1277.4	1285.8	1316.7	1341.0	1325.3
30°	1244.3	1240.1	1266.2	1287.8	1299.9
32.5°	1185.1	1200.4	1230.9	1252.3	1240.9
35°	1149.2	1152.6	1179.3	1206.6	1205.8
37.5°	1086.5	1102.3	1139.8	1147.4	1140.4
40°	1032.9	1048.8	1082.6	1090.9	1087.5
42.5°	993.4	996.2	1025.3	1034.7	1019.7
45°	924.6	941.9	957.5	982.2	958.9
47.5°	866.0	874.1	907.8	914.4	902.1
50°	812.9	815.7	849.6	841.4	833.3
52.5°	746.1	757.9	777.0	775.4	766.0
55°	691.1	686.5	704.6	699.8	699.6
57.5°	625.2	633.2	648.0	640.4	628.2
60°	563.4	563.6	569.0	560.4	558.8
62.5°	494.6	497.0	498.2	487.6	504.8
65°	424.6	419.0	435.4	418.8	421.6
67.5°	360.2	363.0	361.4	351.0	355.0
70°	294.8	298.4	295.8	284.0	287.6
72.5°	235.1	230.6	233.5	218.6	225.4
75°	176.7	173.1	176.3	163.9	169.5
77.5°	120.3	123.1	121.1	114.5	118.3
80°	79.4	77.2	77.2	73.4	74.2
82.5°	46.3	44.1	43.5	42.3	44.1
85°	21.7	21.1	21.5	20.9	20.1
87.5°	7.8	8.0	8.0	7.6	7.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)