

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: P590413

Luminaire Tested: FSR-24-2-LD4-2STD-50-UNV-93-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590413
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-50-UNV-93-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4016.0 lumens
Efficiency: N/A
Efficacy: 120.6 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

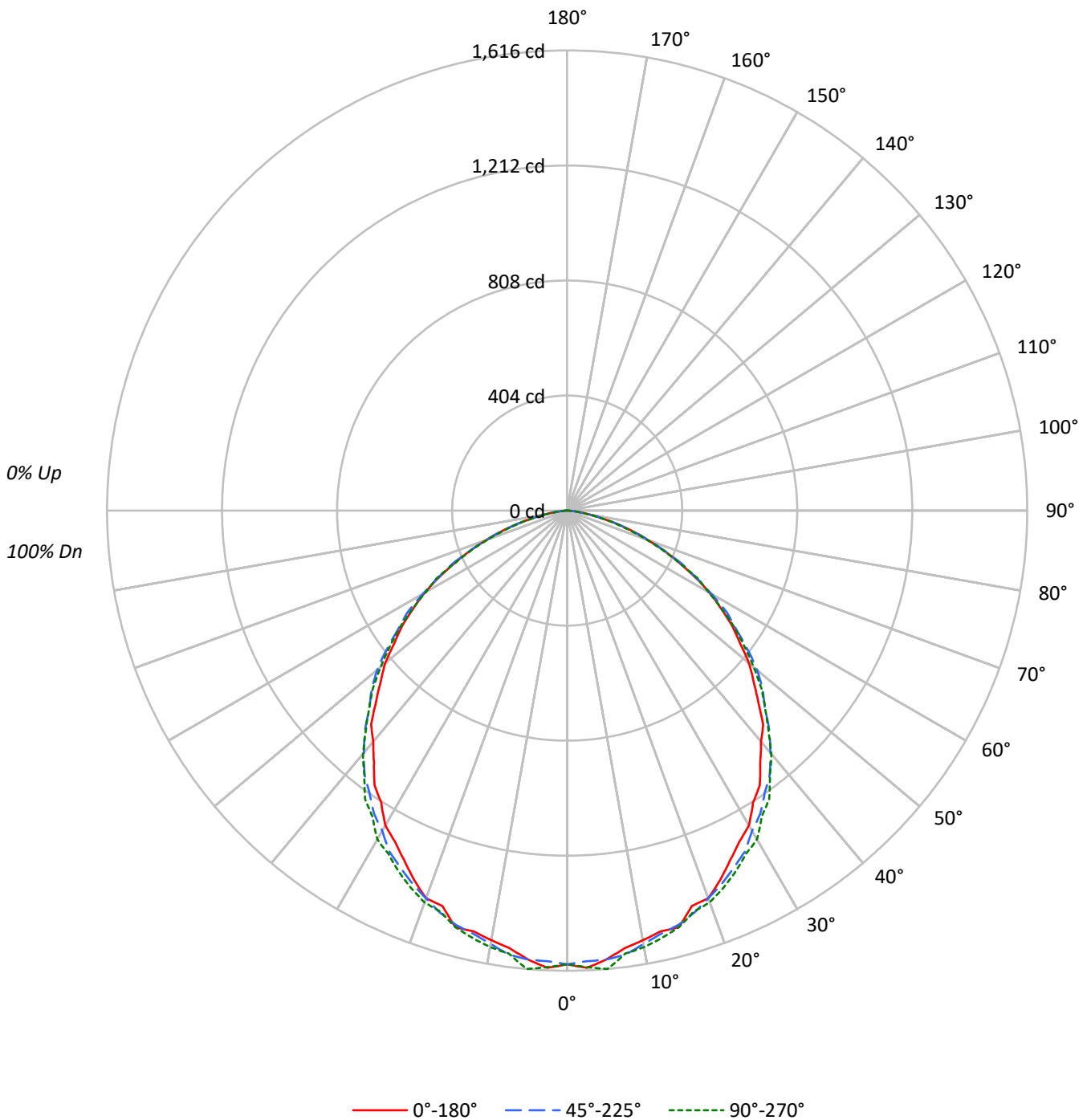
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4288	4288	4288
5°	4274	4275	4366
10°	4187	4224	4253
15°	4220	4197	4221
20°	4149	4149	4193
25°	4021	4109	4154
30°	3966	4036	4143
35°	3873	3974	4063
40°	3722	3901	3919
45°	3610	3738	3743
50°	3491	3648	3579
55°	3326	3391	3367
60°	3110	3141	3085
65°	2773	2844	2754
70°	2379	2388	2321
75°	1885	1880	1807
80°	1263	1227	1179
85°	685	679	636

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3834 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	3.7
10°-20°	424.8	10.6
20°-30°	636.4	15.8
30°-40°	754.3	18.8
40°-50°	755.7	18.8
50°-60°	641.5	16.0
60°-70°	432.5	10.8
70°-80°	190.0	4.7
80°-90°	30.9	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°	1211.1	30.2
0°-40°	1965.4	48.9
0°-60°	3362.6	83.7
0°-90°	4016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4016.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1593	1593	1593	1593	1593	
5°	1582	1578	1583	1578	1616	149
15°	1515	1497	1507	1514	1515	422
25°	1354	1362	1384	1402	1399	626
35°	1179	1182	1210	1238	1237	732
45°	948	966	982	1008	984	734
55°	709	704	723	718	718	631
65°	436	430	447	430	432	433
75°	181	178	181	168	174	194
85°	22	22	22	21	21	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1593.4	1593.4	1593.4	1593.4	1593.4
2.5°	1607.2	1595.1	1583.8	1596.9	1605.0
5°	1582.1	1578.4	1582.7	1578.0	1616.1
7.5°	1549.6	1563.8	1572.1	1566.9	1569.2
10°	1532.3	1527.4	1545.7	1558.5	1556.6
12.5°	1513.8	1521.2	1522.3	1536.0	1537.3
15°	1514.9	1497.4	1506.6	1514.4	1515.1
17.5°	1456.0	1474.9	1481.3	1499.2	1477.0
20°	1448.8	1435.0	1448.8	1467.1	1464.2
22.5°	1404.6	1389.1	1418.8	1435.0	1434.0
25°	1354.4	1361.8	1384.0	1402.1	1399.2
27.5°	1310.4	1319.0	1350.7	1375.6	1359.5
30°	1276.4	1272.1	1298.8	1321.0	1333.4
32.5°	1215.7	1231.3	1262.6	1284.6	1272.9
35°	1178.9	1182.4	1209.7	1237.7	1236.9
37.5°	1114.5	1130.7	1169.2	1177.0	1169.8
40°	1059.6	1075.8	1110.6	1119.0	1115.5
42.5°	1019.0	1021.9	1051.7	1061.4	1046.0
45°	948.5	966.1	982.2	1007.5	983.6
47.5°	888.4	896.6	931.2	938.0	925.4
50°	833.9	836.7	871.5	863.1	854.8
52.5°	765.3	777.5	797.0	795.4	785.7
55°	709.0	704.2	722.8	717.8	717.6
57.5°	641.3	649.5	664.7	656.9	644.4
60°	577.9	578.1	583.7	574.8	573.2
62.5°	507.4	509.8	511.1	500.2	517.8
65°	435.5	429.8	446.7	429.6	432.5
67.5°	369.5	372.4	370.7	360.0	364.2
70°	302.4	306.1	303.5	291.3	295.0
72.5°	241.1	236.6	239.5	224.3	231.3
75°	181.3	177.6	180.8	168.1	173.8
77.5°	123.4	126.3	124.3	117.5	121.4
80°	81.5	79.2	79.2	75.3	76.1
82.5°	47.5	45.3	44.6	43.4	45.3
85°	22.2	21.6	22.0	21.4	20.6
87.5°	8.0	8.2	8.2	7.8	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)