

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: P590559

Luminaire Tested: FSR-24-2-LD4-3LO-40-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590559
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-LD4-3LO-40-UNV-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4064.0 lumens
Efficiency: N/A
Efficacy: 115.8 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

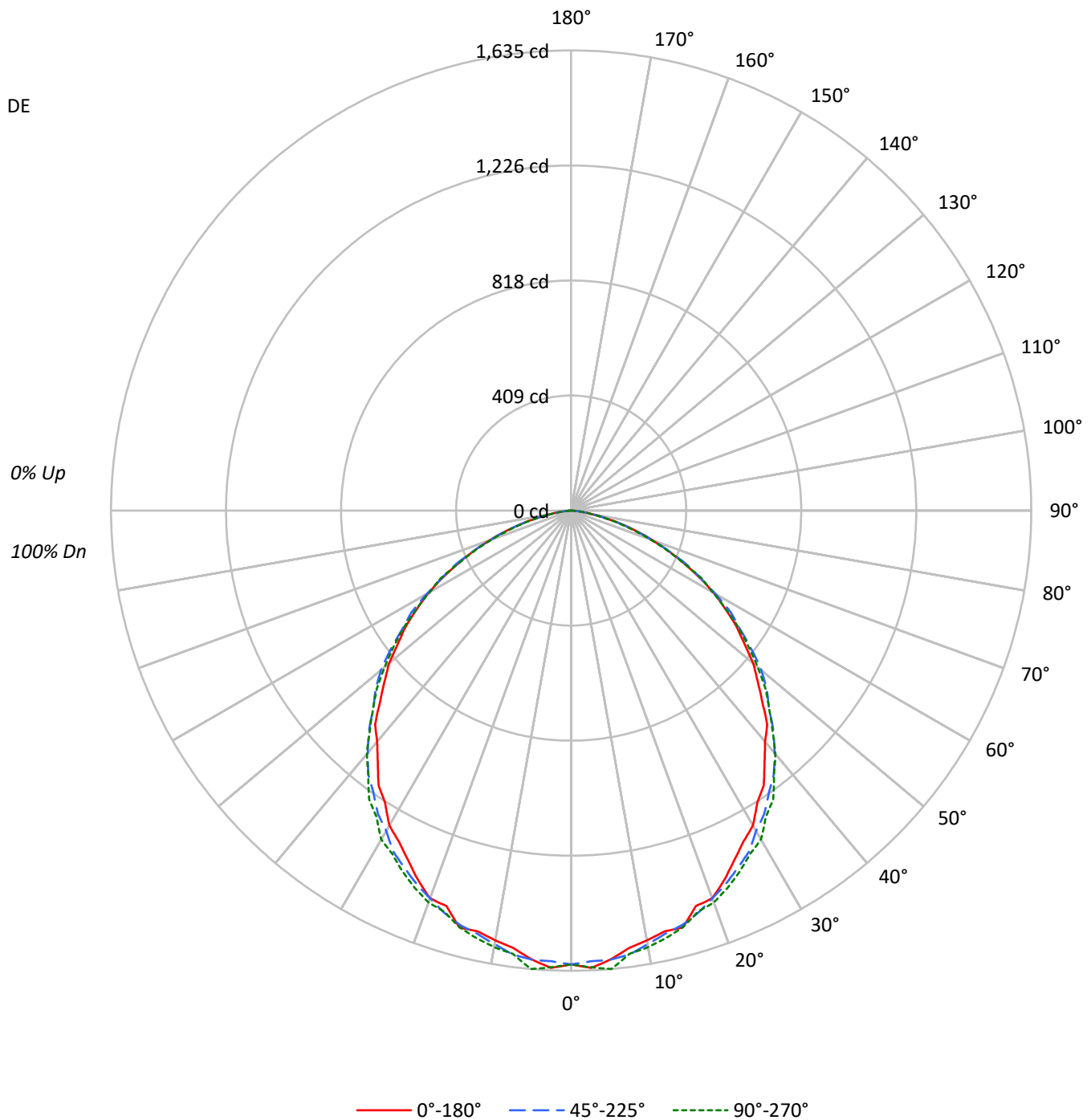
Input Watts (W): 35.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4339	4339	4339
5°	4325	4327	4418
10°	4237	4274	4304
15°	4271	4247	4271
20°	4198	4198	4243
25°	4070	4158	4204
30°	4014	4084	4193
35°	3919	4022	4112
40°	3766	3948	3965
45°	3653	3782	3788
50°	3533	3692	3622
55°	3366	3431	3407
60°	3147	3179	3122
65°	2807	2878	2786
70°	2408	2416	2349
75°	1907	1903	1829
80°	1277	1243	1193
85°	695	689	642

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3880 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.7	3.7
10°-20°	429.9	10.6
20°-30°	644.1	15.8
30°-40°	763.3	18.8
40°-50°	764.7	18.8
50°-60°	649.1	16.0
60°-70°	437.6	10.8
70°-80°	192.3	4.7
80°-90°	31.3	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°	1225.6	30.2
0°-40°	1988.9	48.9
0°-60°	3402.8	83.7
0°-90°	4064.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4064.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1612	1612	1612	1612	1612	
5°	1601	1597	1602	1597	1635	151
15°	1533	1515	1525	1532	1533	427
25°	1371	1378	1400	1419	1416	634
35°	1193	1196	1224	1252	1252	741
45°	960	978	994	1020	995	742
55°	717	713	731	726	726	638
65°	441	435	452	435	438	438
75°	183	180	183	170	176	197
85°	22	22	22	22	21	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1612.5	1612.5	1612.5	1612.5	1612.5
2.5°	1626.4	1614.2	1602.7	1616.0	1624.2
5°	1601.0	1597.3	1601.7	1596.9	1635.4
7.5°	1568.1	1582.5	1590.8	1585.6	1587.9
10°	1550.7	1545.7	1564.2	1577.1	1575.2
12.5°	1531.9	1539.4	1540.5	1554.4	1555.7
15°	1533.0	1515.3	1524.6	1532.5	1533.2
17.5°	1473.4	1492.6	1499.0	1517.1	1494.7
20°	1466.1	1452.2	1466.1	1484.7	1481.7
22.5°	1421.4	1405.8	1435.7	1452.2	1451.1
25°	1370.6	1378.1	1400.5	1418.9	1416.0
27.5°	1326.0	1334.8	1366.8	1392.0	1375.8
30°	1291.7	1287.3	1314.4	1336.8	1349.3
32.5°	1230.2	1246.1	1277.7	1300.0	1288.1
35°	1193.0	1196.5	1224.2	1252.5	1251.7
37.5°	1127.8	1144.3	1183.2	1191.1	1183.8
40°	1072.2	1088.7	1123.9	1132.4	1128.8
42.5°	1031.2	1034.1	1064.3	1074.1	1058.5
45°	959.8	977.7	993.9	1019.5	995.4
47.5°	899.0	907.3	942.3	949.2	936.5
50°	843.8	846.7	881.9	873.4	865.1
52.5°	774.5	786.8	806.6	804.9	795.1
55°	717.4	712.7	731.4	726.4	726.2
57.5°	649.0	657.3	672.7	664.8	652.1
60°	584.8	585.0	590.7	581.7	580.0
62.5°	513.4	515.9	517.2	506.1	524.0
65°	440.8	434.9	452.0	434.7	437.6
67.5°	373.9	376.8	375.2	364.3	368.5
70°	306.1	309.8	307.1	294.8	298.6
72.5°	244.0	239.4	242.3	226.9	234.0
75°	183.4	179.7	183.0	170.1	175.9
77.5°	124.9	127.8	125.8	118.9	122.8
80°	82.4	80.2	80.2	76.2	77.0
82.5°	48.1	45.8	45.2	43.9	45.8
85°	22.5	21.9	22.3	21.7	20.8
87.5°	8.1	8.3	8.3	7.9	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)