

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: P590355

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590355
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3876.0 lumens
Efficiency: N/A
Efficacy: 116.4 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

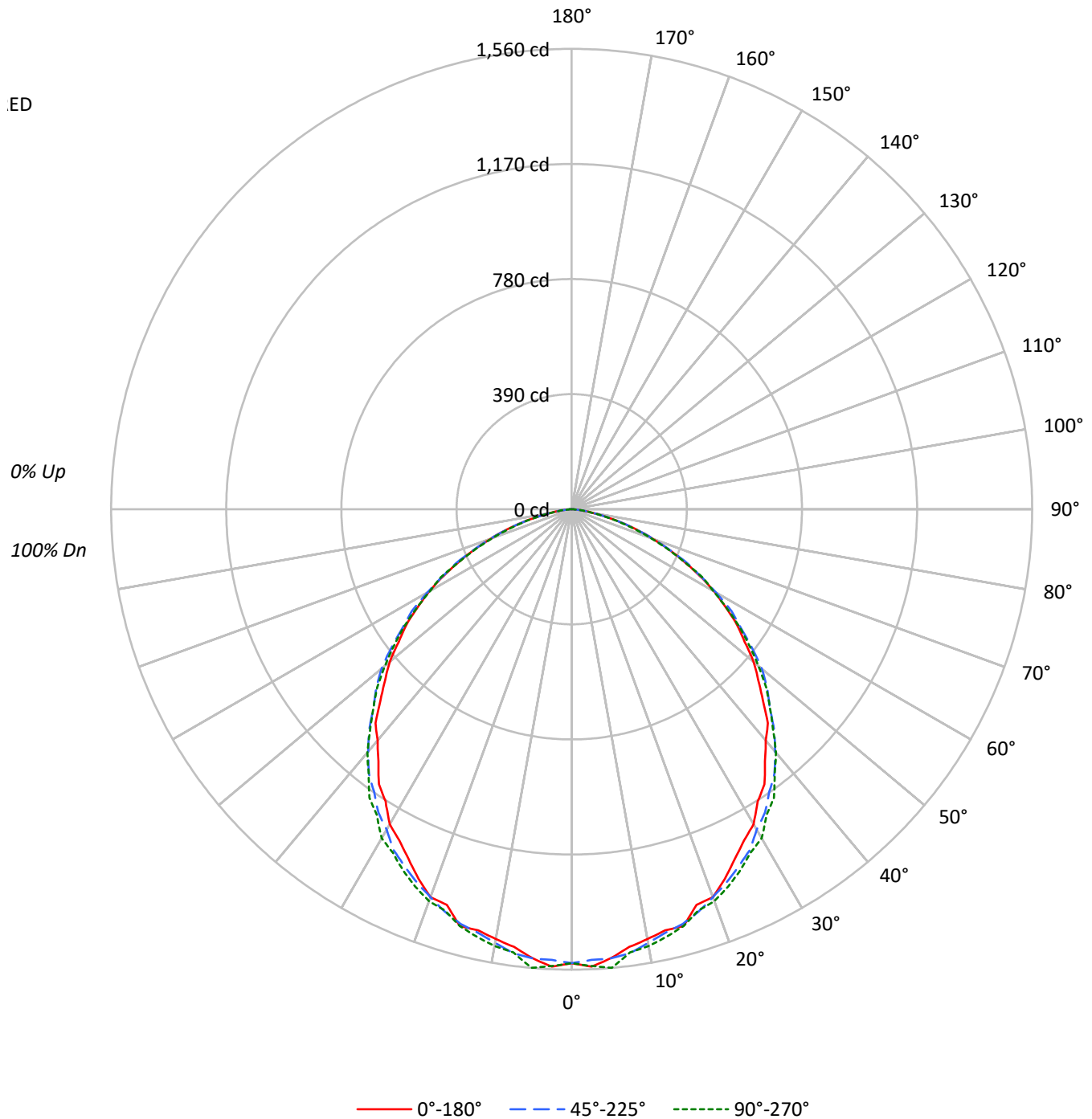
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4138	4138	4138
5°	4125	4126	4213
10°	4041	4076	4105
15°	4073	4051	4074
20°	4004	4004	4047
25°	3881	3966	4010
30°	3828	3895	3999
35°	3738	3836	3922
40°	3592	3765	3782
45°	3484	3608	3613
50°	3369	3521	3454
55°	3210	3273	3249
60°	3002	3032	2977
65°	2677	2745	2658
70°	2297	2305	2240
75°	1818	1814	1745
80°	1218	1184	1139
85°	661	655	614

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3701 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.7	3.7
10°-20°	410.0	10.6
20°-30°	614.3	15.8
30°-40°	728.0	18.8
40°-50°	729.4	18.8
50°-60°	619.1	16.0
60°-70°	417.4	10.8
70°-80°	183.4	4.7
80°-90°	29.8	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°	1168.9	30.2
0°-40°	1896.9	48.9
0°-60°	3245.4	83.7
0°-90°	3876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3876.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1538	1538	1538	1538	1538	
5°	1527	1523	1528	1523	1560	144
15°	1462	1445	1454	1462	1462	407
25°	1307	1314	1336	1353	1350	604
35°	1138	1141	1168	1195	1194	706
45°	915	932	948	972	949	708
55°	684	680	698	693	693	609
65°	420	415	431	415	417	418
75°	175	171	174	162	168	187
85°	21	21	21	21	20	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1537.9	1537.9	1537.9	1537.9	1537.9
2.5°	1551.2	1539.5	1528.6	1541.3	1549.0
5°	1527.0	1523.4	1527.6	1523.0	1559.7
7.5°	1495.6	1509.3	1517.2	1512.3	1514.5
10°	1478.9	1474.2	1491.8	1504.1	1502.4
12.5°	1461.1	1468.2	1469.2	1482.5	1483.7
15°	1462.0	1445.2	1454.1	1461.6	1462.2
17.5°	1405.3	1423.5	1429.7	1447.0	1425.5
20°	1398.3	1385.0	1398.3	1416.0	1413.2
22.5°	1355.6	1340.7	1369.3	1385.0	1384.0
25°	1307.2	1314.3	1335.8	1353.2	1350.5
27.5°	1264.7	1273.0	1303.6	1327.6	1312.1
30°	1231.9	1227.7	1253.6	1275.0	1286.9
32.5°	1173.3	1188.4	1218.6	1239.9	1228.5
35°	1137.8	1141.2	1167.6	1194.6	1193.8
37.5°	1075.6	1091.3	1128.5	1136.0	1129.1
40°	1022.6	1038.3	1071.9	1080.0	1076.6
42.5°	983.5	986.3	1015.1	1024.4	1009.5
45°	915.4	932.5	948.0	972.4	949.3
47.5°	857.4	865.4	898.7	905.3	893.2
50°	804.8	807.6	841.1	833.0	825.0
52.5°	738.7	750.4	769.2	767.7	758.3
55°	684.3	679.7	697.6	692.8	692.6
57.5°	618.9	626.9	641.6	634.0	621.9
60°	557.8	558.0	563.3	554.8	553.2
62.5°	489.7	492.0	493.2	482.7	499.8
65°	420.4	414.8	431.1	414.6	417.4
67.5°	356.6	359.4	357.8	347.5	351.5
70°	291.9	295.5	292.9	281.2	284.7
72.5°	232.7	228.4	231.1	216.4	223.2
75°	174.9	171.4	174.5	162.2	167.8
77.5°	119.1	121.9	119.9	113.4	117.2
80°	78.6	76.4	76.4	72.7	73.5
82.5°	45.9	43.7	43.1	41.9	43.7
85°	21.4	20.8	21.2	20.7	19.9
87.5°	7.7	7.9	7.9	7.5	7.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)