

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P312993

Luminaire Tested: **22FCZ2-39HE-UNV-L83050-S-CA08-W2A-U-4500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P312993
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-39HE-UNV-L83050-S-CA08-W2A-U-4500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 4500K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3964.9 lumens
Efficiency: N/A
Efficacy: 116.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

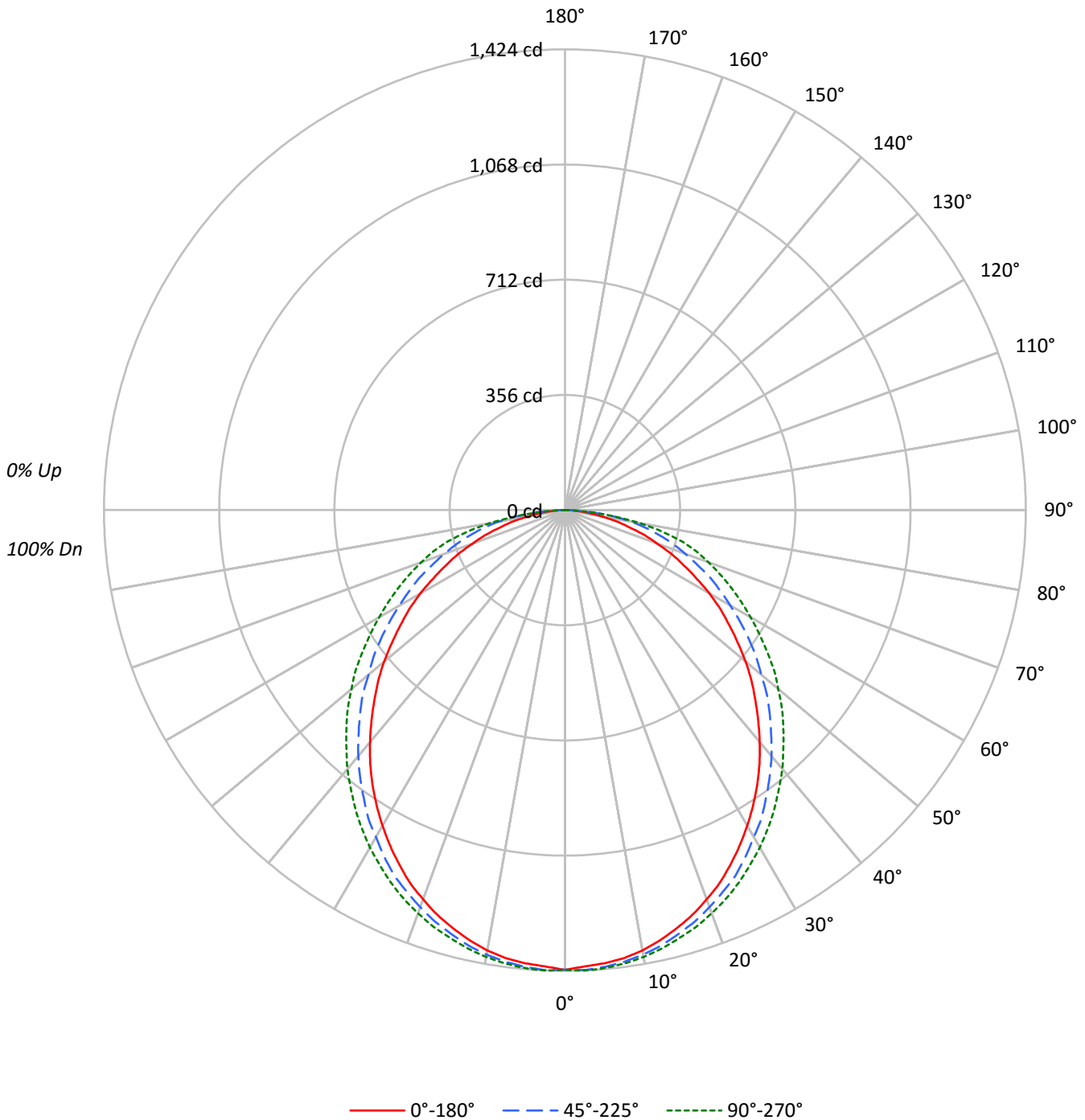
Input Watts (W): 34
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3823	3823	3823
5°	3798	3828	3838
10°	3776	3812	3832
15°	3726	3778	3814
20°	3666	3740	3798
25°	3592	3702	3774
30°	3501	3627	3742
35°	3403	3561	3707
40°	3288	3490	3672
45°	3168	3408	3633
50°	3051	3315	3601
55°	2907	3255	3576
60°	2778	3176	3564
65°	2592	3157	3605
70°	2387	3129	3711
75°	2154	3173	3904
80°	1863	3268	3670
85°	1541	2742	2742



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.4	3.4
10°-20°	382.4	9.6
20°-30°	572.1	14.4
30°-40°	677.5	17.1
40°-50°	690.5	17.4
50°-60°	618.8	15.6
60°-70°	484.5	12.2
70°-80°	312.4	7.9
80°-90°	92.3	2.3
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°	1088.8	27.5
0°-40°	1766.4	44.5
0°-60°	3075.7	77.6
0°-90°	3964.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3964.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1406	1410	1417	1419	1421	133
15°	1338	1345	1356	1367	1369	377
25°	1210	1221	1247	1264	1271	557
35°	1036	1049	1084	1117	1128	647
45°	832	851	895	942	955	643
55°	620	640	694	742	762	556
65°	407	431	496	544	566	404
75°	207	239	305	357	376	222
85°	50	68	89	89	89	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1420.8	1420.8	1420.8	1420.8	1420.8
2.5°	1411.5	1415.2	1422.6	1424.5	1424.5
5°	1406.0	1409.7	1417.1	1418.9	1420.8
7.5°	1396.7	1398.6	1407.8	1411.5	1413.4
10°	1381.9	1385.6	1394.9	1400.4	1402.3
12.5°	1361.6	1367.1	1378.2	1385.6	1387.5
15°	1337.5	1344.9	1356.0	1367.1	1369.0
17.5°	1311.6	1319.0	1333.8	1346.8	1350.5
20°	1280.2	1289.4	1306.1	1320.9	1326.4
22.5°	1248.7	1256.1	1276.5	1295.0	1300.5
25°	1209.9	1221.0	1246.9	1263.5	1270.9
27.5°	1169.2	1182.1	1208.0	1230.2	1237.6
30°	1126.6	1139.6	1167.3	1195.1	1204.3
32.5°	1082.2	1097.0	1130.3	1158.1	1167.3
35°	1036.0	1048.9	1084.1	1117.4	1128.5
37.5°	987.9	999.0	1039.7	1074.8	1085.9
40°	936.1	950.9	993.4	1034.1	1045.2
42.5°	884.3	900.9	943.5	987.9	999.0
45°	832.5	851.0	895.4	941.6	954.6
47.5°	782.5	797.3	847.3	891.7	910.2
50°	728.9	743.7	791.8	841.7	860.2
52.5°	673.4	693.7	745.5	793.6	815.8
55°	619.7	640.1	693.7	741.8	762.2
57.5°	569.8	586.4	641.9	691.9	712.2
60°	516.1	530.9	590.1	643.8	662.3
62.5°	458.8	481.0	542.0	592.0	614.2
65°	407.0	431.0	495.8	543.9	566.1
67.5°	358.9	381.1	444.0	495.8	519.8
70°	303.4	333.0	397.7	449.5	471.7
72.5°	259.0	284.9	351.5	403.3	427.3
75°	207.2	238.6	305.2	357.0	375.5
77.5°	164.6	196.1	259.0	299.7	308.9
80°	120.2	151.7	210.9	231.2	236.8
82.5°	81.4	111.0	151.7	157.2	159.1
85°	49.9	68.4	88.8	88.8	88.8
87.5°	24.0	27.7	31.4	29.6	29.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)