

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: P313891

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-CA08-W2A-U-3500K**

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: P313891  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40HE-UNV-L83050-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 3500K 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**

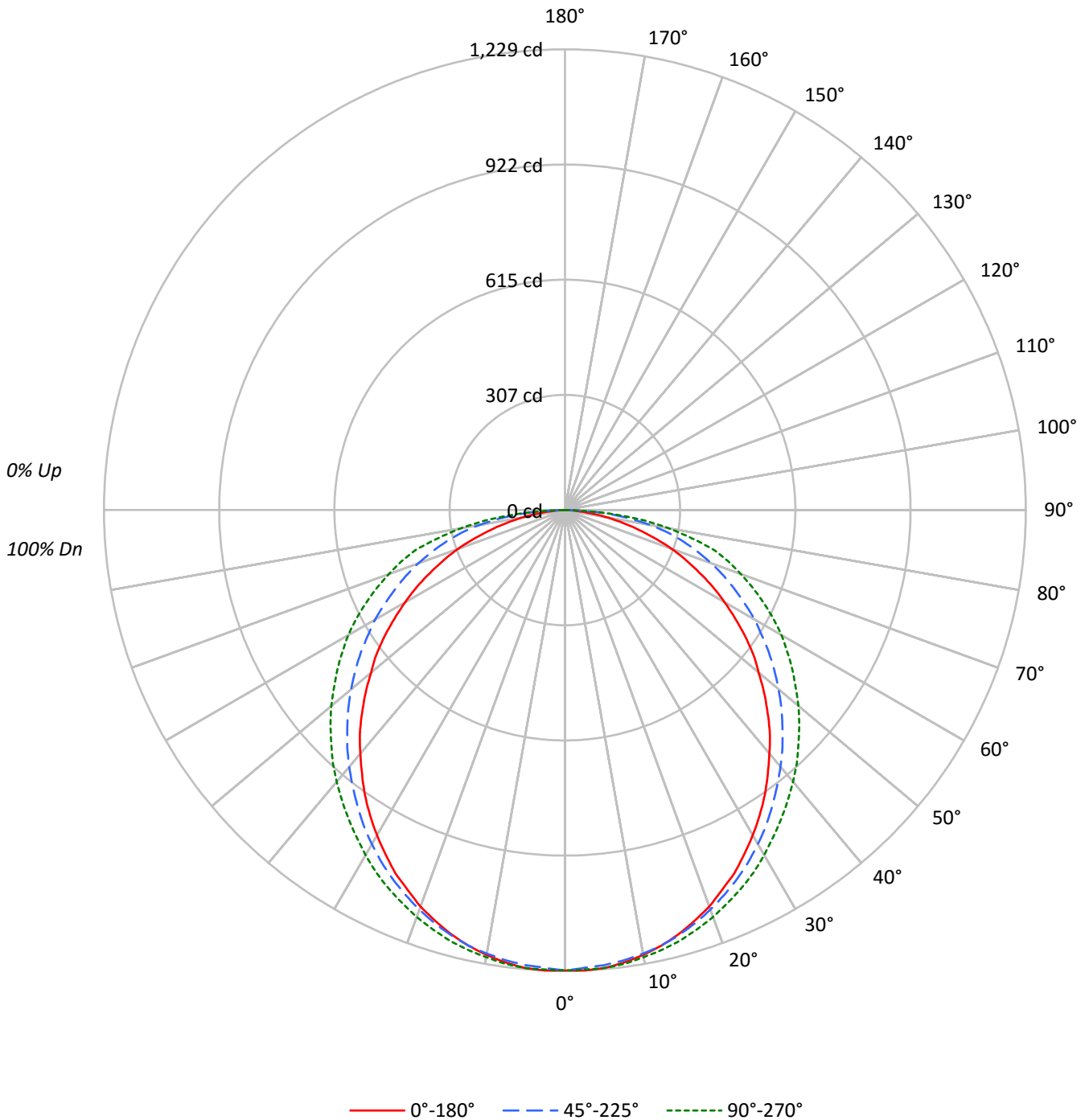
Lumens per Lamp: N/A  
Luminaire Lumens: 3724.0 lumens  
Efficiency: N/A  
Efficacy: 122.5 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1652	1652	1652
5°	1655	1645	1655
10°	1646	1641	1654
15°	1632	1635	1656
20°	1612	1624	1654
25°	1587	1612	1653
30°	1557	1599	1651
35°	1526	1583	1652
40°	1491	1571	1662
45°	1455	1561	1676
50°	1412	1557	1702
55°	1377	1559	1736
60°	1323	1573	1795
65°	1263	1589	1861
70°	1196	1638	1964
75°	1066	1709	2145
80°	910	1809	2192
85°	648	1792	2098



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.2	3.1
10°-20°	332.3	8.9
20°-30°	502.0	13.5
30°-40°	605.0	16.2
40°-50°	635.1	17.1
50°-60°	594.2	16.0
60°-70°	490.7	13.2
70°-80°	334.4	9.0
80°-90°	114.0	3.1
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°	950.5	25.5
0°-40°	1555.5	41.8
0°-60°	2784.9	74.8
0°-90°	3724.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3724.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1226	1224	1218	1226	1226	116
15°	1171	1172	1174	1186	1189	330
25°	1069	1074	1086	1107	1113	492
35°	929	939	964	996	1006	581
45°	765	781	820	865	881	590
55°	587	610	665	719	740	524
65°	397	430	499	562	584	393
75°	205	252	329	390	413	219
85°	42	83	116	131	136	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1228.1	1228.1	1228.1	1228.1	1228.1
2.5°	1229.4	1228.1	1222.0	1228.1	1226.9
5°	1225.7	1224.4	1218.3	1225.7	1225.7
7.5°	1217.0	1217.0	1210.8	1219.5	1220.7
10°	1204.7	1204.7	1201.0	1210.8	1210.8
12.5°	1189.8	1189.8	1189.8	1199.7	1201.0
15°	1171.3	1172.5	1173.8	1186.1	1188.6
17.5°	1149.1	1151.5	1155.2	1170.1	1172.5
20°	1125.6	1128.1	1134.2	1151.5	1155.2
22.5°	1095.9	1102.1	1110.8	1130.5	1134.2
25°	1068.8	1073.7	1086.1	1107.1	1113.2
27.5°	1035.4	1042.8	1058.9	1081.1	1089.8
30°	1002.0	1009.4	1029.2	1055.2	1062.6
32.5°	966.2	977.3	998.3	1025.5	1034.2
35°	929.1	939.0	963.7	995.9	1005.7
37.5°	888.4	902.0	929.1	963.7	976.1
40°	848.8	863.7	894.5	931.6	946.4
42.5°	809.3	824.1	858.7	900.7	915.5
45°	764.8	780.9	820.4	864.9	881.0
47.5°	720.3	740.1	783.3	830.3	847.6
50°	674.6	696.9	743.8	793.2	813.0
52.5°	633.8	654.8	704.3	757.4	775.9
55°	586.9	610.4	664.7	719.1	740.1
57.5°	538.7	564.6	622.7	682.0	703.0
60°	491.8	520.2	584.4	643.7	667.2
62.5°	446.0	474.5	541.2	603.0	626.4
65°	396.6	430.0	499.2	562.2	584.4
67.5°	349.7	385.5	458.4	520.2	542.4
70°	303.9	338.5	416.4	476.9	499.2
72.5°	254.5	294.1	371.9	434.9	458.4
75°	205.1	252.1	328.7	390.4	412.7
77.5°	159.4	207.6	284.2	334.8	346.0
80°	117.4	166.8	233.5	269.4	282.9
82.5°	75.4	124.8	177.9	203.9	215.0
85°	42.0	82.8	116.1	131.0	135.9
87.5°	17.3	35.8	47.0	53.1	53.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)