

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: P314284

Luminaire Tested: **24FCZ2-40HE-UNV-L83050-S-CP187-W2A-U-5000K**

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: P314284  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
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-S-CP187-W2A-U-5000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 5000K 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**

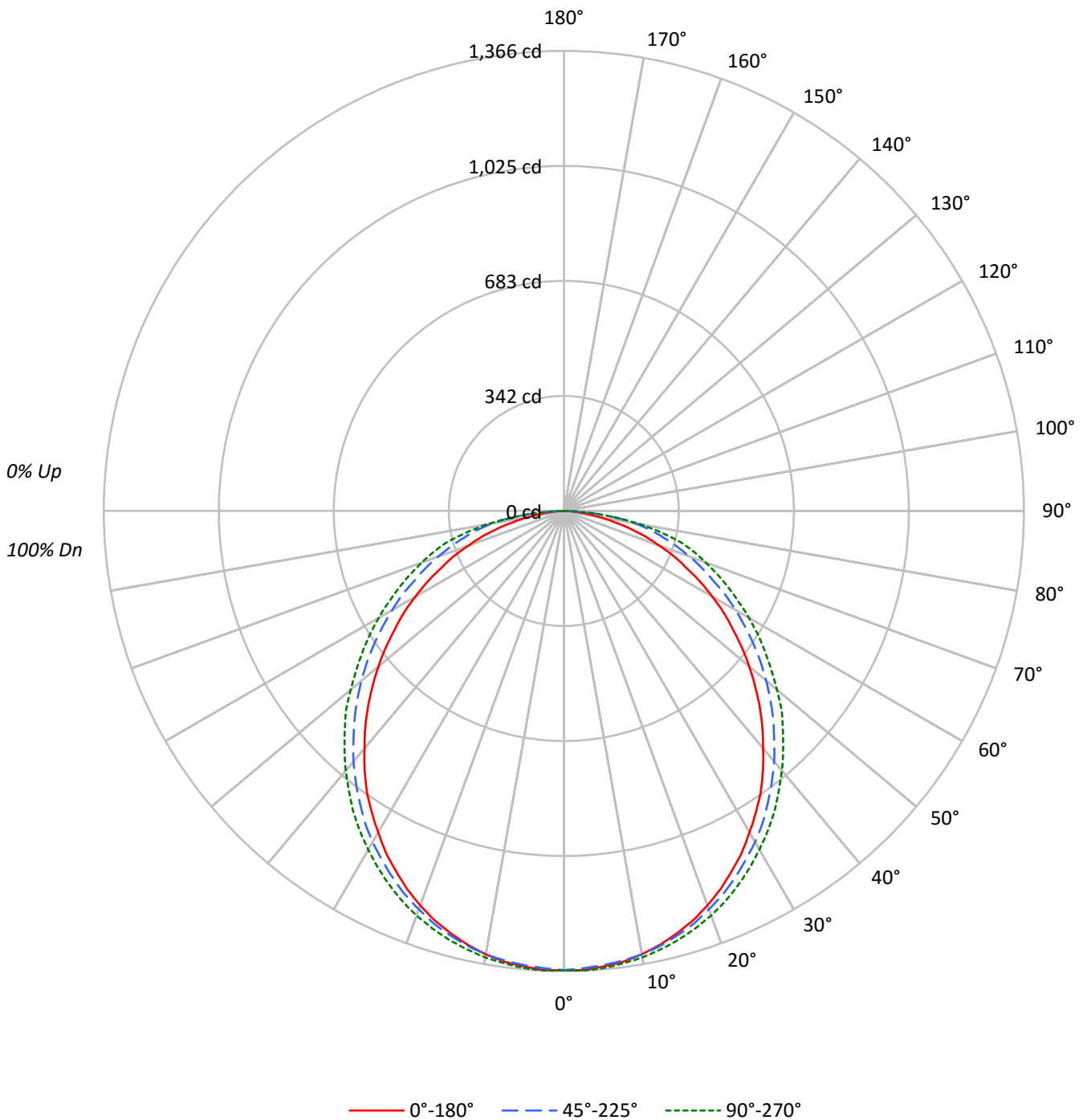
Lumens per Lamp: N/A  
Luminaire Lumens: 3881.0 lumens  
Efficiency: N/A  
Efficacy: 121.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 31.9  
Input Voltage (V): NR  
Input Current (A<sub>in</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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	1834	1834	1834
5°	1833	1828	1840
10°	1826	1826	1839
15°	1808	1817	1836
20°	1785	1802	1830
25°	1751	1784	1819
30°	1712	1764	1804
35°	1675	1735	1790
40°	1617	1706	1769
45°	1564	1673	1750
50°	1504	1641	1729
55°	1437	1611	1712
60°	1370	1586	1709
65°	1283	1558	1719
70°	1188	1566	1765
75°	1064	1596	1865
80°	859	1691	1825
85°	647	1485	1447



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.1	3.3
10°-20°	368.8	9.5
20°-30°	554.4	14.3
30°-40°	660.4	17.0
40°-50°	675.9	17.4
50°-60°	608.5	15.7
60°-70°	477.9	12.3
70°-80°	310.1	8.0
80°-90°	95.9	2.5
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°	1052.3	27.1
0°-40°	1712.7	44.1
0°-60°	2997.1	77.2
0°-90°	3881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3881.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1363	1363	1363	1363	1363	
5°	1357	1360	1354	1361	1362	129
15°	1298	1302	1304	1315	1318	366
25°	1180	1190	1202	1222	1225	543
35°	1020	1032	1056	1082	1090	636
45°	822	842	879	912	920	634
55°	613	640	687	722	730	549
65°	403	434	489	530	540	401
75°	205	244	307	349	359	217
85°	42	78	96	94	94	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1363.4	1363.4	1363.4	1363.4	1363.4
2.5°	1364.7	1364.7	1358.5	1364.7	1365.9
5°	1357.3	1359.7	1353.6	1361.0	1362.2
7.5°	1349.9	1349.9	1346.2	1353.6	1354.8
10°	1336.3	1337.5	1336.3	1344.9	1346.2
12.5°	1319.0	1321.5	1322.7	1331.4	1332.6
15°	1298.1	1301.8	1304.2	1315.3	1317.8
17.5°	1274.7	1278.4	1284.5	1296.9	1299.3
20°	1246.3	1251.2	1258.6	1274.7	1278.4
22.5°	1215.5	1220.4	1232.7	1247.5	1253.7
25°	1179.7	1189.6	1201.9	1221.7	1225.4
27.5°	1144.0	1152.6	1168.6	1189.6	1194.5
30°	1102.1	1115.6	1135.4	1156.3	1161.2
32.5°	1061.4	1075.0	1098.4	1120.6	1126.7
35°	1019.5	1031.8	1056.5	1082.4	1089.8
37.5°	971.4	987.4	1014.6	1040.4	1047.8
40°	920.9	940.6	971.4	998.5	1007.2
42.5°	872.8	893.7	924.6	954.1	964.0
45°	822.2	842.0	879.0	912.2	919.6
47.5°	770.5	792.7	832.1	865.4	877.7
50°	718.7	742.1	784.0	818.5	825.9
52.5°	666.9	691.6	736.0	772.9	776.6
55°	612.7	639.8	686.6	722.4	729.8
57.5°	563.4	586.8	637.3	674.3	682.9
60°	509.1	535.0	589.3	623.8	634.9
62.5°	457.3	484.5	541.2	575.7	585.6
65°	403.1	433.9	489.4	530.1	539.9
67.5°	356.3	385.9	445.0	484.5	494.3
70°	302.0	335.3	398.2	438.9	448.7
72.5°	255.2	289.7	352.6	392.0	406.8
75°	204.6	244.1	307.0	348.9	358.7
77.5°	155.3	200.9	265.0	297.1	297.1
80°	110.9	159.0	218.2	233.0	235.5
82.5°	72.7	119.6	161.5	160.3	160.3
85°	41.9	77.7	96.2	93.7	93.7
87.5°	16.0	32.1	34.5	34.5	33.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)