

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: P313743

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-RDP-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: P313743  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-70HE-UNV-L83050-RDP-CA08-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.08" ACRYLIC SHEET  
Light Source: (336) 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**

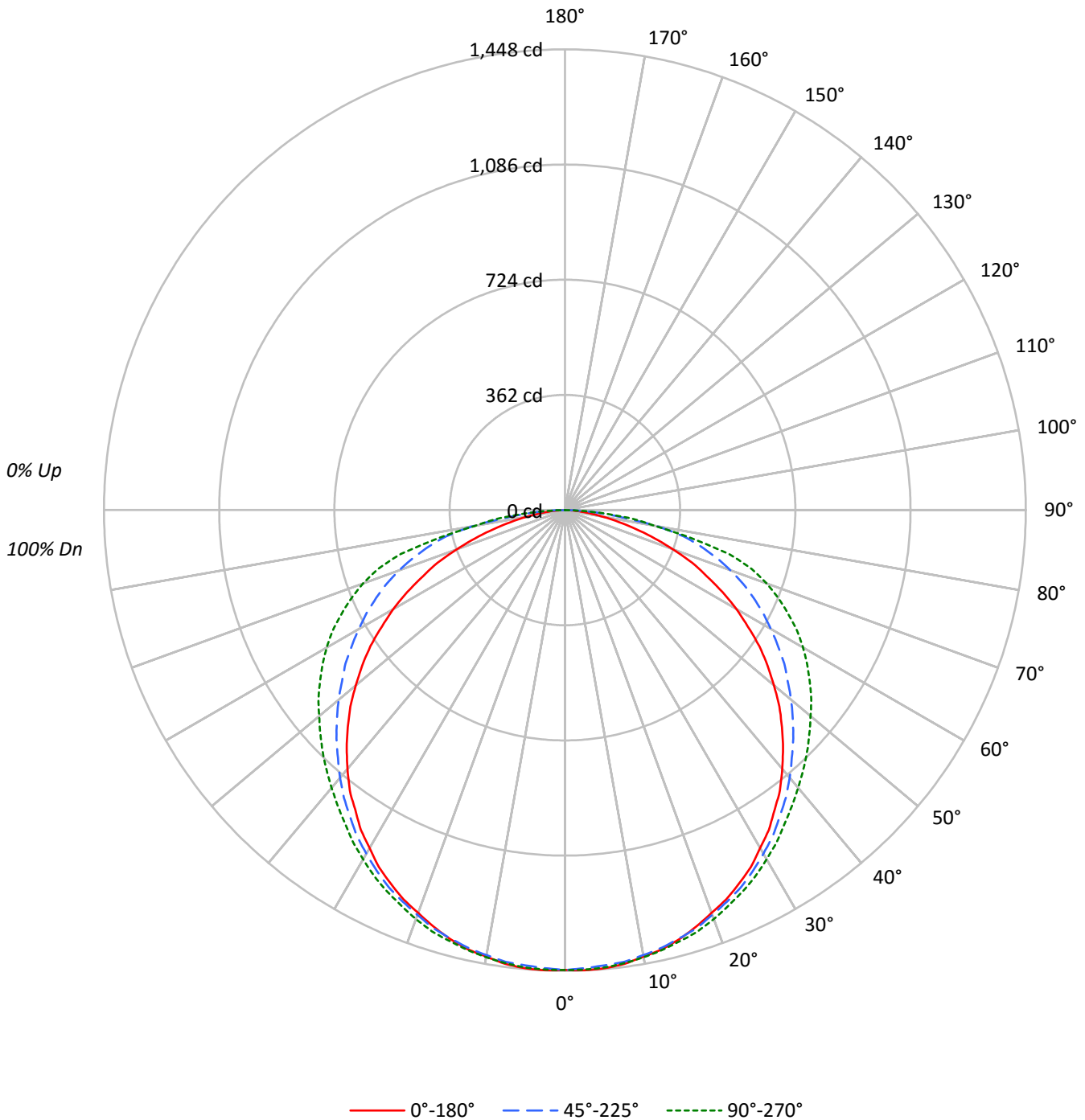
Lumens per Lamp: N/A  
Luminaire Lumens: 4596.0 lumens  
Efficiency: N/A  
Efficacy: 76.0 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 60.5  
Input Voltage (V): NR  
Input Current (A<sub>in</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	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

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

	0°	45°	90°
0°	1945	1945	1945
5°	1952	1940	1949
10°	1947	1940	1950
15°	1943	1940	1953
20°	1929	1939	1958
25°	1922	1943	1963
30°	1906	1937	1969
35°	1887	1932	1977
40°	1866	1930	2002
45°	1835	1930	2047
50°	1794	1942	2109
55°	1749	1973	2203
60°	1675	2012	2325
65°	1568	2083	2468
70°	1426	2179	2655
75°	1209	2299	2773
80°	954	2314	2243
85°	704	1760	1971



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.1	3.0
10°-20°	394.6	8.6
20°-30°	603.4	13.1
30°-40°	737.6	16.0
40°-50°	786.2	17.1
50°-60°	751.7	16.4
60°-70°	636.8	13.9
70°-80°	428.0	9.3
80°-90°	120.7	2.6
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°	1135.1	24.7
0°-40°	1872.7	40.7
0°-60°	3410.5	74.2
0°-90°	4596.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4596.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1445	1445	1445	1445	1445	
5°	1445	1443	1436	1443	1443	137
15°	1395	1395	1393	1404	1402	393
25°	1295	1299	1308	1320	1322	597
35°	1149	1158	1176	1199	1204	720
45°	964	980	1014	1058	1076	744
55°	746	773	841	907	939	664
65°	492	543	654	741	775	489
75°	232	317	442	518	533	249
85°	46	94	114	123	128	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1445.3	1445.3	1445.3	1445.3	1445.3
2.5°	1447.6	1447.6	1440.8	1445.3	1445.3
5°	1445.3	1443.0	1436.2	1443.0	1443.0
7.5°	1438.5	1436.2	1431.6	1438.5	1436.2
10°	1424.8	1424.8	1420.2	1427.1	1427.1
12.5°	1413.4	1411.1	1408.8	1418.0	1415.7
15°	1395.2	1395.2	1392.9	1404.3	1402.0
17.5°	1372.4	1374.6	1376.9	1386.0	1388.3
20°	1347.3	1351.8	1354.1	1367.8	1367.8
22.5°	1324.5	1326.8	1331.3	1345.0	1345.0
25°	1294.9	1299.4	1308.5	1319.9	1322.2
27.5°	1265.2	1267.5	1278.9	1294.9	1297.1
30°	1226.5	1233.3	1247.0	1265.2	1267.5
32.5°	1192.3	1199.1	1215.1	1233.3	1237.9
35°	1149.0	1158.1	1176.3	1199.1	1203.7
37.5°	1110.2	1117.0	1139.8	1164.9	1171.8
40°	1062.3	1076.0	1098.8	1128.4	1139.8
42.5°	1014.5	1028.1	1055.5	1094.2	1107.9
45°	964.3	980.3	1014.5	1057.8	1076.0
47.5°	914.1	932.4	971.1	1021.3	1041.8
50°	857.2	880.0	927.8	984.8	1007.6
52.5°	802.4	829.8	882.2	946.1	975.7
55°	745.5	772.8	841.2	907.3	939.2
57.5°	681.6	718.1	793.3	868.6	902.7
60°	622.3	656.5	747.7	829.8	864.0
62.5°	558.5	604.1	702.1	788.8	823.0
65°	492.4	542.6	654.3	740.9	775.1
67.5°	433.1	487.8	606.4	693.0	727.2
70°	362.5	430.9	554.0	640.6	674.8
72.5°	296.4	371.6	499.2	583.6	615.5
75°	232.5	316.9	442.3	517.5	533.4
77.5°	173.3	262.2	383.0	414.9	403.5
80°	123.1	209.7	298.6	282.7	289.5
82.5°	79.8	159.6	184.7	209.7	216.6
85°	45.6	93.5	114.0	123.1	127.7
87.5°	20.5	34.2	45.6	45.6	43.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)