

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: P309726

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-3000K**

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: P309726  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)  
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-L82765-HRP-CA08-W2A-U-3000K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET  
Light Source: (336) 3000K 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**

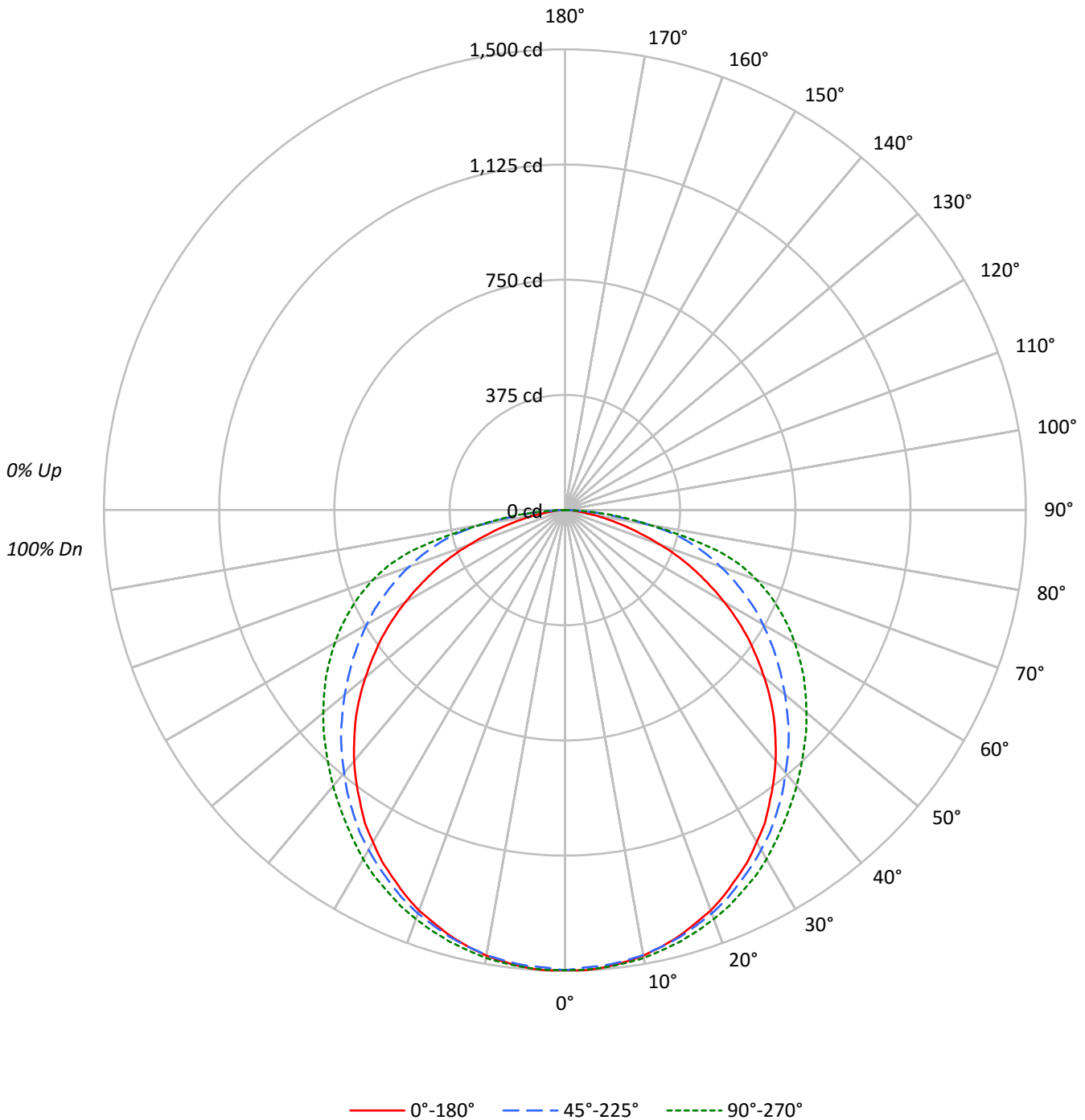
Lumens per Lamp: N/A  
Luminaire Lumens: 4617.0 lumens  
Efficiency: N/A  
Efficacy: 80.6 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 57.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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



TEST NUMBER: P309726

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P309726

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-3000K

**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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

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

	0°	45°	90°
0°	2016	2016	2016
5°	2018	2010	2018
10°	2012	2010	2023
15°	2000	2006	2025
20°	1987	2001	2029
25°	1963	1991	2032
30°	1940	1985	2039
35°	1908	1975	2041
40°	1874	1962	2061
45°	1832	1960	2093
50°	1772	1958	2148
55°	1709	1972	2226
60°	1612	2003	2325
65°	1489	2049	2455
70°	1300	2122	2616
75°	1055	2231	2703
80°	779	2187	2187
85°	597	1612	1820



TEST NUMBER: P309726

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-3000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.9	3.1
10°-20°	407.5	8.8
20°-30°	620.4	13.4
30°-40°	753.3	16.3
40°-50°	795.8	17.2
50°-60°	751.0	16.3
60°-70°	624.4	13.5
70°-80°	410.8	8.9
80°-90°	112.0	2.4
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°	1169.8	25.3
0°-40°	1923.1	41.7
0°-60°	3469.8	75.2
0°-90°	4617.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4617.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1498	1498	1498	1498	1498	
5°	1494	1494	1488	1494	1494	142
15°	1436	1438	1440	1454	1454	405
25°	1322	1330	1341	1365	1368	610
35°	1162	1175	1202	1233	1243	727
45°	963	982	1030	1080	1100	741
55°	729	760	841	920	949	649
65°	468	522	644	738	771	462
75°	203	296	429	508	520	219
85°	39	85	104	116	118	47
90°	0	0	0	0	0	



TEST NUMBER: P309726

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-3000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1498.0	1498.0	1498.0	1498.0	1498.0
2.5°	1499.9	1498.0	1490.3	1498.0	1498.0
5°	1494.1	1494.1	1488.3	1494.1	1494.1
7.5°	1484.5	1484.5	1480.6	1488.3	1488.3
10°	1472.9	1472.9	1470.9	1480.6	1480.6
12.5°	1455.5	1457.4	1455.5	1467.1	1467.1
15°	1436.1	1438.1	1440.0	1453.5	1453.5
17.5°	1411.0	1414.9	1418.7	1434.2	1436.1
20°	1387.8	1389.7	1397.5	1414.9	1416.8
22.5°	1356.9	1362.7	1372.4	1389.7	1395.5
25°	1322.1	1329.8	1341.4	1364.6	1368.5
27.5°	1289.2	1295.0	1310.5	1335.6	1343.4
30°	1248.6	1258.3	1277.6	1302.8	1312.4
32.5°	1210.0	1219.7	1242.8	1269.9	1277.6
35°	1161.7	1175.2	1202.3	1233.2	1242.8
37.5°	1115.3	1128.8	1161.7	1196.5	1208.1
40°	1067.0	1082.4	1117.2	1157.8	1173.3
42.5°	1014.8	1036.0	1074.7	1119.1	1136.5
45°	962.6	981.9	1030.2	1080.5	1099.8
47.5°	906.5	929.7	981.9	1041.8	1065.0
50°	846.6	875.6	935.5	1001.2	1026.4
52.5°	786.7	819.5	887.2	960.6	987.7
55°	728.7	759.6	840.8	920.1	949.0
57.5°	664.9	703.6	792.5	877.5	906.5
60°	599.2	641.7	744.2	833.1	864.0
62.5°	533.5	581.8	697.8	786.7	819.5
65°	467.8	521.9	643.7	738.4	771.2
67.5°	404.0	463.9	593.4	688.1	721.0
70°	330.5	405.9	539.3	632.1	664.9
72.5°	262.9	349.9	487.1	574.1	603.1
75°	203.0	295.7	429.1	508.3	519.9
77.5°	148.8	241.6	369.2	396.2	398.2
80°	100.5	193.3	282.2	278.3	282.2
82.5°	65.7	145.0	177.8	199.1	201.0
85°	38.7	85.0	104.4	116.0	117.9
87.5°	19.3	29.0	36.7	38.7	42.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)