

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: P313316

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-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: P313316  
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: 24FCZ2-60HE-UNV-L83050-HRP-CA08-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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**

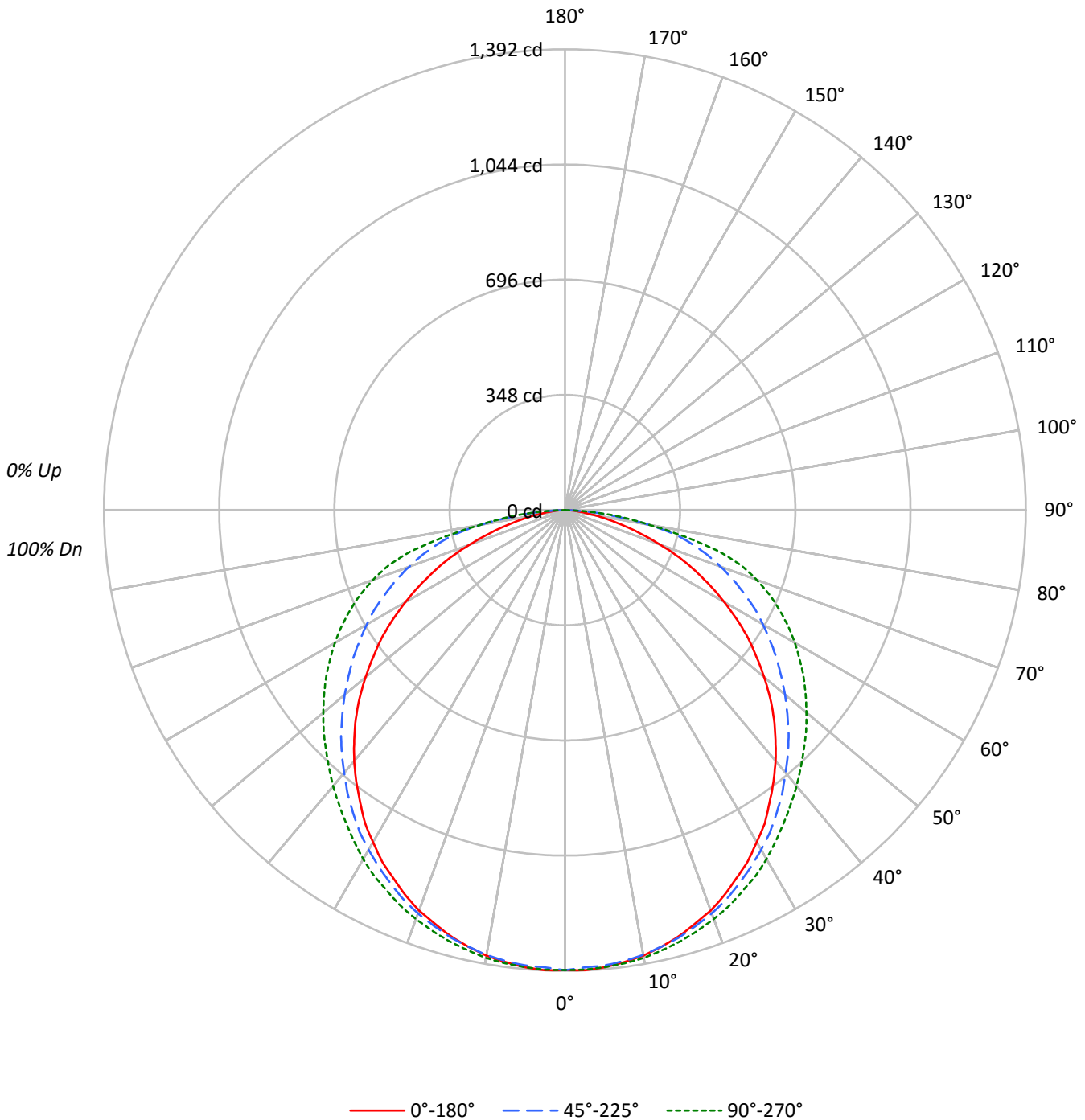
Lumens per Lamp: N/A  
Luminaire Lumens: 4284.0 lumens  
Efficiency: N/A  
Efficacy: 90.0 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
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	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°	1870	1870	1870
5°	1873	1865	1873
10°	1867	1865	1877
15°	1856	1861	1879
20°	1844	1857	1882
25°	1821	1848	1885
30°	1800	1842	1892
35°	1770	1832	1894
40°	1739	1821	1912
45°	1700	1819	1942
50°	1644	1817	1993
55°	1586	1830	2066
60°	1496	1858	2157
65°	1382	1901	2278
70°	1207	1969	2427
75°	979	2070	2508
80°	723	2029	2029
85°	554	1494	1689



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.7	3.1
10°-20°	378.1	8.8
20°-30°	575.6	13.4
30°-40°	698.9	16.3
40°-50°	738.4	17.2
50°-60°	696.8	16.3
60°-70°	579.3	13.5
70°-80°	381.2	8.9
80°-90°	103.9	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°	1085.4	25.3
0°-40°	1784.4	41.7
0°-60°	3219.6	75.2
0°-90°	4284.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4284.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1390	1390	1390	1390	1390	
5°	1386	1386	1381	1386	1386	132
15°	1333	1334	1336	1349	1349	376
25°	1227	1234	1245	1266	1270	566
35°	1078	1090	1116	1144	1153	675
45°	893	911	956	1003	1020	688
55°	676	705	780	854	881	602
65°	434	484	597	685	716	429
75°	188	274	398	472	482	203
85°	36	79	97	108	109	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1389.9	1389.9	1389.9	1389.9	1389.9
2.5°	1391.7	1389.9	1382.8	1389.9	1389.9
5°	1386.4	1386.4	1381.0	1386.4	1386.4
7.5°	1377.4	1377.4	1373.8	1381.0	1381.0
10°	1366.6	1366.6	1364.8	1373.8	1373.8
12.5°	1350.5	1352.3	1350.5	1361.3	1361.3
15°	1332.6	1334.3	1336.1	1348.7	1348.7
17.5°	1309.2	1312.8	1316.4	1330.8	1332.6
20°	1287.7	1289.5	1296.7	1312.8	1314.6
22.5°	1259.0	1264.4	1273.4	1289.5	1294.9
25°	1226.7	1233.9	1244.7	1266.2	1269.8
27.5°	1196.3	1201.6	1216.0	1239.3	1246.5
30°	1158.6	1167.6	1185.5	1208.8	1217.8
32.5°	1122.7	1131.7	1153.2	1178.3	1185.5
35°	1077.9	1090.4	1115.5	1144.2	1153.2
37.5°	1034.8	1047.4	1077.9	1110.2	1120.9
40°	990.0	1004.3	1036.6	1074.3	1088.6
42.5°	941.6	961.3	997.2	1038.4	1054.6
45°	893.2	911.1	955.9	1002.6	1020.5
47.5°	841.1	862.7	911.1	966.7	988.2
50°	785.5	812.4	868.0	929.0	952.3
52.5°	729.9	760.4	823.2	891.4	916.5
55°	676.1	704.8	780.2	853.7	880.6
57.5°	617.0	652.8	735.3	814.2	841.1
60°	556.0	595.4	690.5	773.0	801.7
62.5°	495.0	539.8	647.4	729.9	760.4
65°	434.0	484.2	597.2	685.1	715.6
67.5°	374.8	430.4	550.6	638.5	669.0
70°	306.7	376.6	500.4	586.5	617.0
72.5°	243.9	324.6	452.0	532.7	559.6
75°	188.3	274.4	398.2	471.7	482.4
77.5°	138.1	224.2	342.6	367.7	369.5
80°	93.3	179.3	261.8	258.3	261.8
82.5°	61.0	134.5	165.0	184.7	186.5
85°	35.9	78.9	96.8	107.6	109.4
87.5°	17.9	26.9	34.1	35.9	39.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)