

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: P313336

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CP250-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: P313336  
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-CP250-W2A-U-3500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB 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**

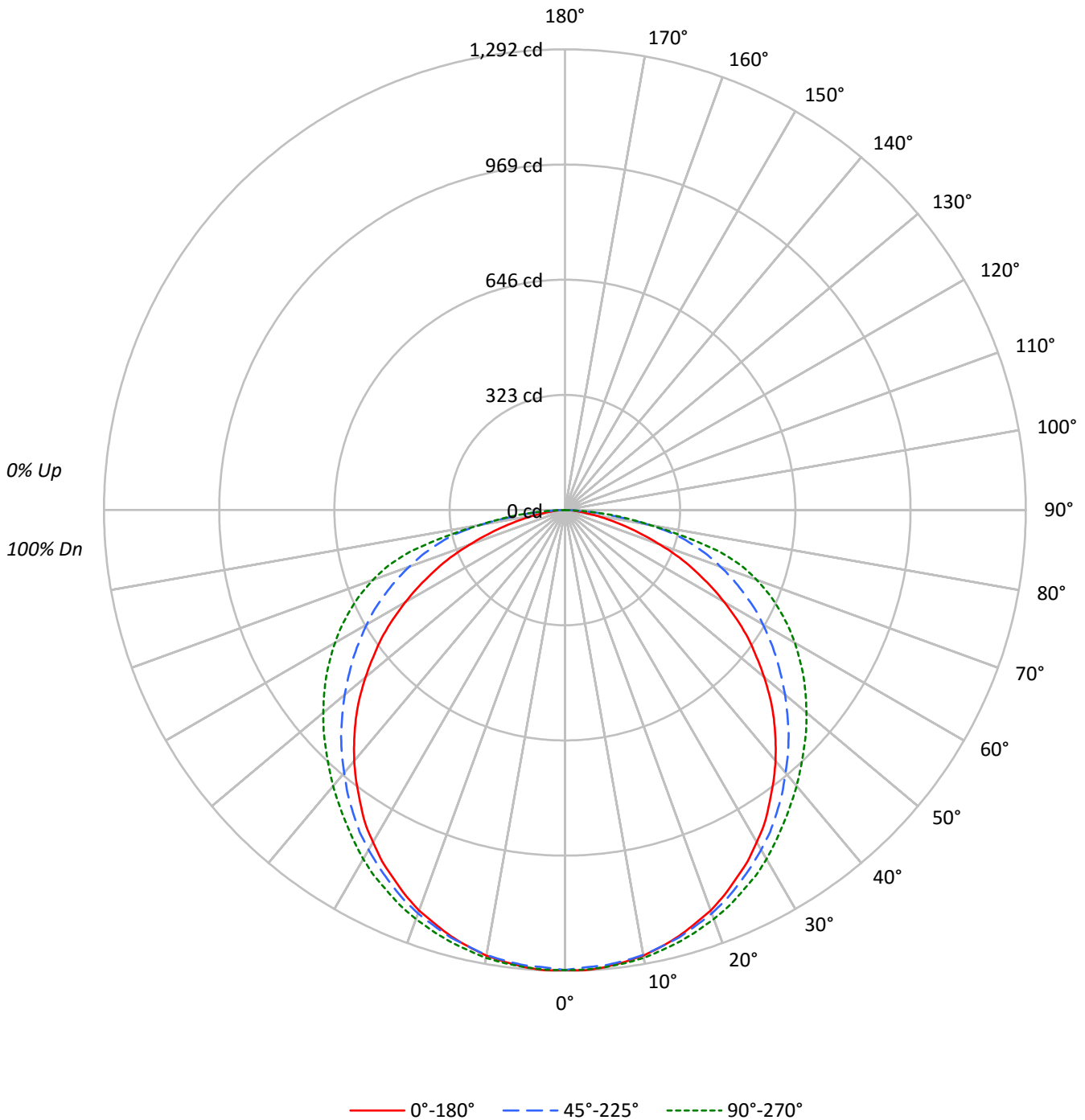
Lumens per Lamp: N/A  
Luminaire Lumens: 3976.0 lumens  
Efficiency: N/A  
Efficacy: 83.5 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 47.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	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°	1736	1736	1736
5°	1738	1731	1738
10°	1733	1731	1742
15°	1723	1727	1744
20°	1711	1723	1747
25°	1690	1715	1750
30°	1671	1709	1756
35°	1643	1701	1758
40°	1614	1690	1775
45°	1577	1688	1802
50°	1526	1686	1850
55°	1472	1699	1917
60°	1389	1724	2002
65°	1282	1765	2115
70°	1120	1827	2253
75°	909	1921	2328
80°	671	1883	1883
85°	514	1388	1567



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.2	3.1
10°-20°	350.9	8.8
20°-30°	534.2	13.4
30°-40°	648.7	16.3
40°-50°	685.3	17.2
50°-60°	646.7	16.3
60°-70°	537.7	13.5
70°-80°	353.8	8.9
80°-90°	96.4	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°	1007.4	25.3
0°-40°	1656.1	41.7
0°-60°	2988.1	75.2
0°-90°	3976.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3976.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1287	1287	1282	1287	1287	122
15°	1237	1238	1240	1252	1252	349
25°	1138	1145	1155	1175	1178	525
35°	1000	1012	1035	1062	1070	626
45°	829	846	887	930	947	638
55°	628	654	724	792	817	559
65°	403	449	554	636	664	398
75°	175	255	370	438	448	188
85°	33	73	90	100	102	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1290.0	1290.0	1290.0	1290.0	1290.0
2.5°	1291.7	1290.0	1283.4	1290.0	1290.0
5°	1286.7	1286.7	1281.7	1286.7	1286.7
7.5°	1278.4	1278.4	1275.0	1281.7	1281.7
10°	1268.4	1268.4	1266.7	1275.0	1275.0
12.5°	1253.4	1255.1	1253.4	1263.4	1263.4
15°	1236.8	1238.4	1240.1	1251.7	1251.7
17.5°	1215.1	1218.4	1221.8	1235.1	1236.8
20°	1195.1	1196.8	1203.5	1218.4	1220.1
22.5°	1168.5	1173.5	1181.8	1196.8	1201.8
25°	1138.5	1145.2	1155.2	1175.2	1178.5
27.5°	1110.2	1115.2	1128.6	1150.2	1156.9
30°	1075.3	1083.6	1100.3	1121.9	1130.2
32.5°	1042.0	1050.3	1070.3	1093.6	1100.3
35°	1000.4	1012.0	1035.3	1062.0	1070.3
37.5°	960.4	972.1	1000.4	1030.3	1040.3
40°	918.8	932.1	962.1	997.1	1010.4
42.5°	873.9	892.2	925.5	963.8	978.7
45°	828.9	845.6	887.2	930.5	947.1
47.5°	780.7	800.6	845.6	897.2	917.2
50°	729.1	754.0	805.6	862.2	883.9
52.5°	677.5	705.8	764.0	827.3	850.6
55°	627.5	654.2	724.1	792.3	817.3
57.5°	572.6	605.9	682.5	755.7	780.7
60°	516.0	552.6	640.8	717.4	744.0
62.5°	459.4	501.0	600.9	677.5	705.8
65°	402.8	449.4	554.3	635.9	664.2
67.5°	347.9	399.5	511.0	592.6	620.9
70°	284.6	349.6	464.4	544.3	572.6
72.5°	226.4	301.3	419.5	494.4	519.3
75°	174.8	254.7	369.5	437.8	447.8
77.5°	128.2	208.1	317.9	341.2	342.9
80°	86.6	166.5	243.0	239.7	243.0
82.5°	56.6	124.8	153.1	171.4	173.1
85°	33.3	73.2	89.9	99.9	101.5
87.5°	16.6	25.0	31.6	33.3	36.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)