

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: P309666

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP187-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: P309666  
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-L82765-HRP-CP187-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187" POLYCARB 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: 3977.0 lumens  
Efficiency: N/A  
Efficacy: 82.0 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

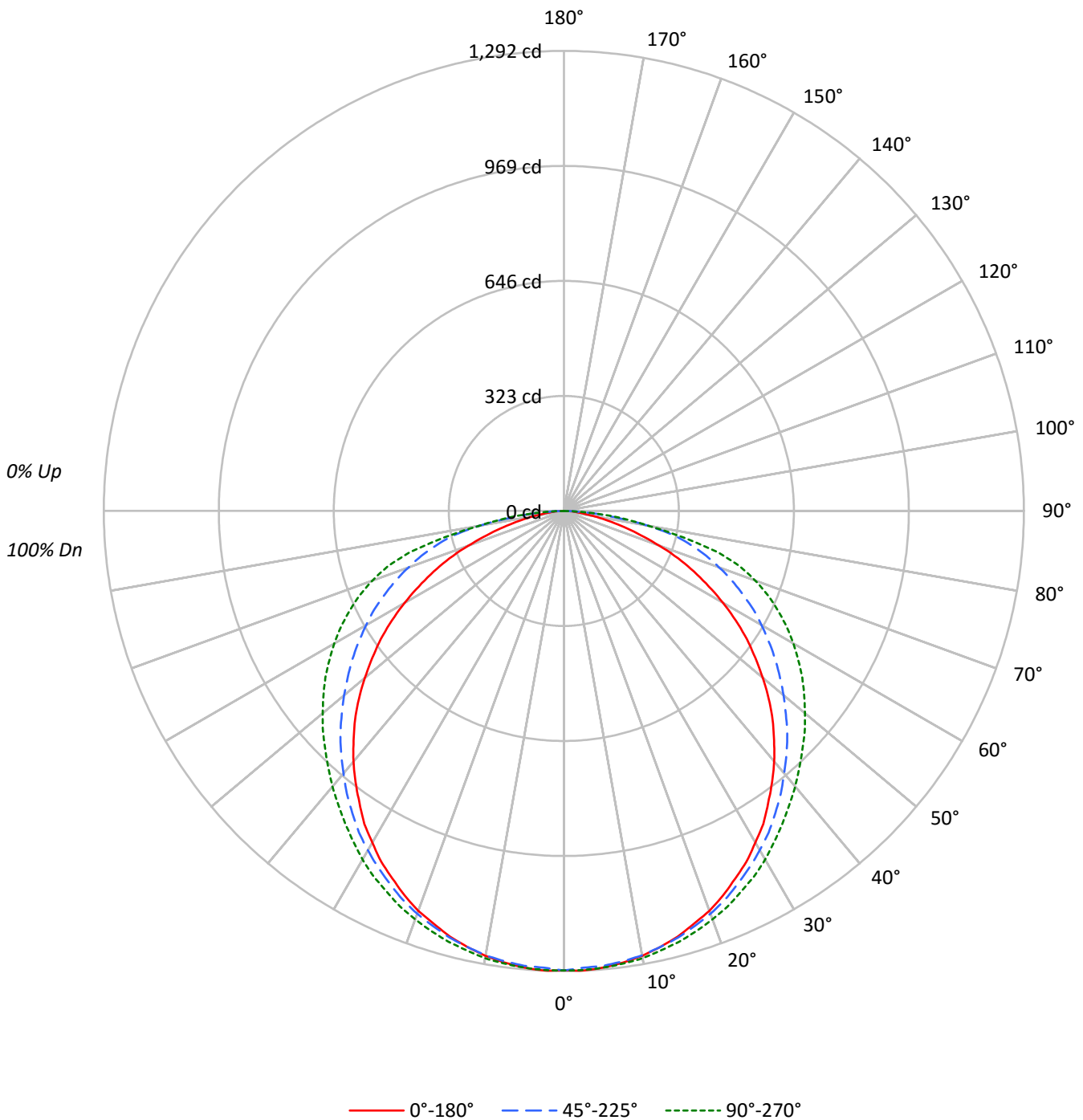
Input Watts (W): 48.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	1736	1736	1736
5°	1738	1732	1738
10°	1733	1731	1743
15°	1723	1728	1744
20°	1712	1724	1747
25°	1691	1715	1750
30°	1671	1710	1756
35°	1644	1701	1759
40°	1614	1690	1775
45°	1578	1689	1803
50°	1527	1687	1851
55°	1472	1699	1918
60°	1389	1725	2003
65°	1283	1765	2115
70°	1120	1827	2253
75°	909	1921	2328
80°	671	1884	1884
85°	514	1388	1568



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.2	3.1
10°-20°	351.0	8.8
20°-30°	534.4	13.4
30°-40°	648.9	16.3
40°-50°	685.5	17.2
50°-60°	646.9	16.3
60°-70°	537.8	13.5
70°-80°	353.8	8.9
80°-90°	96.5	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°	1007.6	25.3
0°-40°	1656.5	41.7
0°-60°	2988.8	75.2
0°-90°	3977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3977.0	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	1239	1240	1252	1252	349
25°	1139	1146	1156	1176	1179	525
35°	1001	1012	1036	1062	1071	626
45°	829	846	887	931	947	639
55°	628	654	724	792	818	559
65°	403	450	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°	1290.3	1290.3	1290.3	1290.3	1290.3
2.5°	1292.0	1290.3	1283.7	1290.3	1290.3
5°	1287.0	1287.0	1282.0	1287.0	1287.0
7.5°	1278.7	1278.7	1275.4	1282.0	1282.0
10°	1268.7	1268.7	1267.0	1275.4	1275.4
12.5°	1253.7	1255.4	1253.7	1263.7	1263.7
15°	1237.1	1238.7	1240.4	1252.0	1252.0
17.5°	1215.4	1218.7	1222.1	1235.4	1237.1
20°	1195.4	1197.1	1203.8	1218.7	1220.4
22.5°	1168.8	1173.8	1182.1	1197.1	1202.1
25°	1138.8	1145.5	1155.5	1175.5	1178.8
27.5°	1110.5	1115.5	1128.8	1150.5	1157.1
30°	1075.6	1083.9	1100.5	1122.2	1130.5
32.5°	1042.3	1050.6	1070.6	1093.9	1100.5
35°	1000.6	1012.3	1035.6	1062.2	1070.6
37.5°	960.7	972.3	1000.6	1030.6	1040.6
40°	919.1	932.4	962.3	997.3	1010.6
42.5°	874.1	892.4	925.7	964.0	979.0
45°	829.1	845.8	887.4	930.7	947.4
47.5°	780.9	800.8	845.8	897.4	917.4
50°	729.3	754.2	805.8	862.4	884.1
52.5°	677.6	705.9	764.2	827.5	850.8
55°	627.7	654.3	724.3	792.5	817.5
57.5°	572.7	606.0	682.6	755.9	780.9
60°	516.1	552.8	641.0	717.6	744.2
62.5°	459.5	501.2	601.0	677.6	705.9
65°	402.9	449.5	554.4	636.0	664.3
67.5°	348.0	399.6	511.1	592.7	621.0
70°	284.7	349.6	464.5	544.4	572.7
72.5°	226.4	301.4	419.6	494.5	519.5
75°	174.8	254.7	369.6	437.9	447.9
77.5°	128.2	208.1	318.0	341.3	343.0
80°	86.6	166.5	243.1	239.8	243.1
82.5°	56.6	124.9	153.2	171.5	173.2
85°	33.3	73.3	89.9	99.9	101.6
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)