

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: P309675

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP250-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: P309675
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
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: 3944.0 lumens
Efficiency: N/A
Efficacy: 81.3 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

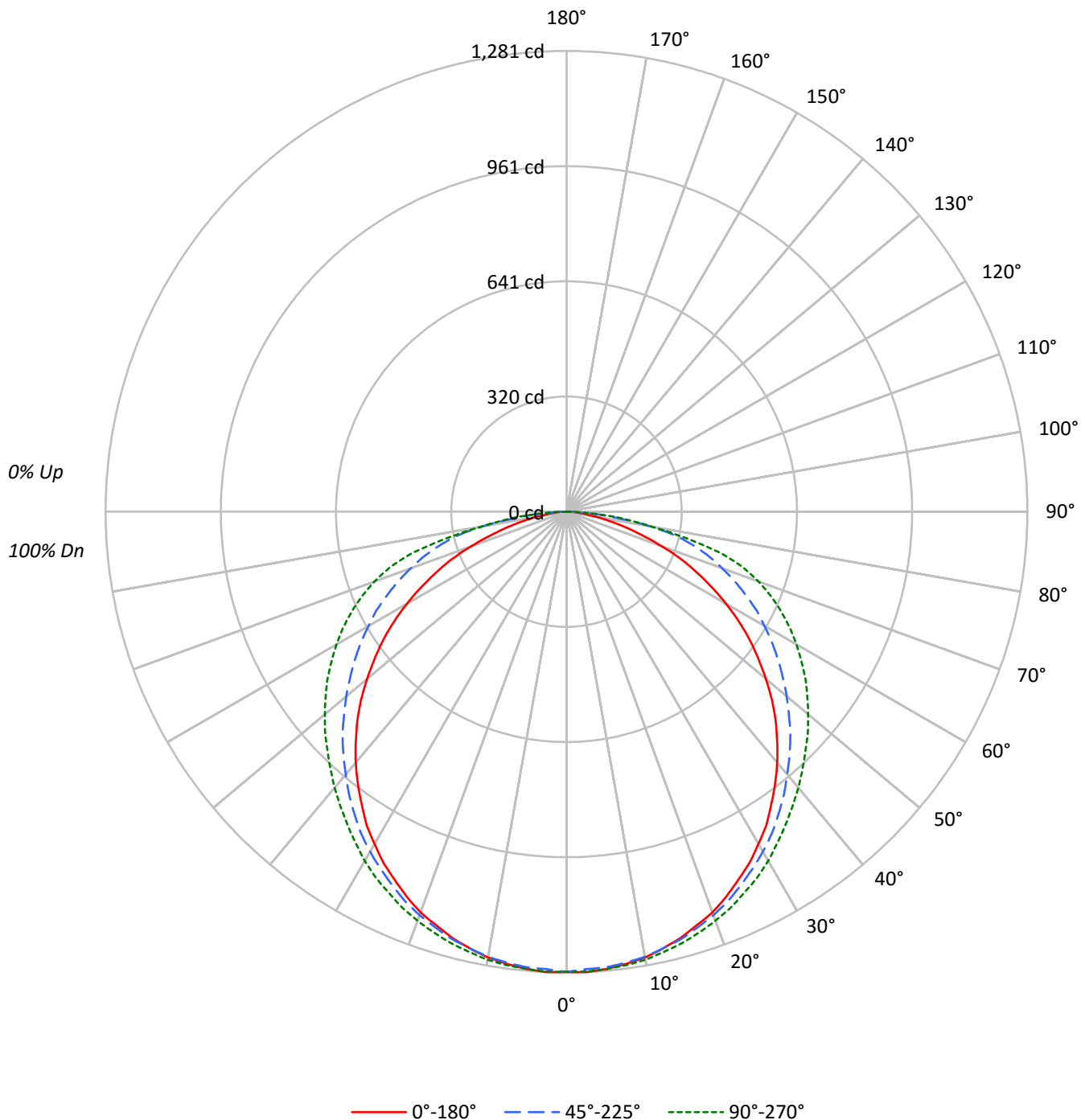
Input Watts (W): 48.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1722	1722	1722
5°	1724	1717	1724
10°	1719	1717	1728
15°	1709	1713	1730
20°	1697	1709	1733
25°	1677	1701	1735
30°	1657	1696	1742
35°	1630	1687	1744
40°	1601	1676	1760
45°	1565	1675	1788
50°	1514	1673	1835
55°	1460	1685	1902
60°	1378	1711	1986
65°	1272	1750	2097
70°	1111	1812	2234
75°	901	1906	2309
80°	666	1868	1868
85°	509	1377	1555



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.2	3.1
10°-20°	348.1	8.8
20°-30°	529.9	13.4
30°-40°	643.5	16.3
40°-50°	679.8	17.2
50°-60°	641.5	16.3
60°-70°	533.4	13.5
70°-80°	350.9	8.9
80°-90°	95.7	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°	999.3	25.3
0°-40°	1642.7	41.7
0°-60°	2964.1	75.2
0°-90°	3944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3944.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1280	1280	1280	1280	1280	
5°	1276	1276	1271	1276	1276	121
15°	1227	1228	1230	1242	1242	346
25°	1129	1136	1146	1166	1169	521
35°	992	1004	1027	1053	1062	621
45°	822	839	880	923	940	633
55°	622	649	718	786	811	554
65°	400	446	550	631	659	395
75°	173	253	367	434	444	187
85°	33	73	89	99	101	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1279.6	1279.6	1279.6	1279.6	1279.6
2.5°	1281.3	1279.6	1273.0	1279.6	1279.6
5°	1276.3	1276.3	1271.4	1276.3	1276.3
7.5°	1268.1	1268.1	1264.8	1271.4	1271.4
10°	1258.2	1258.2	1256.5	1264.8	1264.8
12.5°	1243.3	1245.0	1243.3	1253.2	1253.2
15°	1226.8	1228.4	1230.1	1241.7	1241.7
17.5°	1205.3	1208.6	1211.9	1225.1	1226.8
20°	1185.5	1187.2	1193.8	1208.6	1210.3
22.5°	1159.1	1164.1	1172.3	1187.2	1192.1
25°	1129.4	1136.0	1145.9	1165.7	1169.0
27.5°	1101.3	1106.3	1119.5	1140.9	1147.5
30°	1066.6	1074.9	1091.4	1112.9	1121.1
32.5°	1033.6	1041.9	1061.7	1084.8	1091.4
35°	992.3	1003.9	1027.0	1053.4	1061.7
37.5°	952.7	964.3	992.3	1022.1	1032.0
40°	911.4	924.6	954.4	989.0	1002.2
42.5°	866.8	885.0	918.0	956.0	970.9
45°	822.3	838.8	880.1	923.0	939.5
47.5°	774.4	794.2	838.8	890.0	909.8
50°	723.2	748.0	799.2	855.3	876.8
52.5°	672.0	700.1	757.9	820.6	843.7
55°	622.5	648.9	718.2	785.9	810.7
57.5°	568.0	601.0	677.0	749.6	774.4
60°	511.9	548.2	635.7	711.6	738.1
62.5°	455.7	497.0	596.1	672.0	700.1
65°	399.6	445.8	549.8	630.7	658.8
67.5°	345.1	396.3	506.9	587.8	615.9
70°	282.3	346.7	460.7	539.9	568.0
72.5°	224.6	298.9	416.1	490.4	515.2
75°	173.4	252.6	366.6	434.2	444.2
77.5°	127.1	206.4	315.4	338.5	340.1
80°	85.9	165.1	241.1	237.8	241.1
82.5°	56.1	123.8	151.9	170.1	171.7
85°	33.0	72.7	89.2	99.1	100.7
87.5°	16.5	24.8	31.4	33.0	36.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)