

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: P309677

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP250-W2A-U-5500K**

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: P309677
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-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 5500K 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: 4037.0 lumens
Efficiency: N/A
Efficacy: 82.6 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

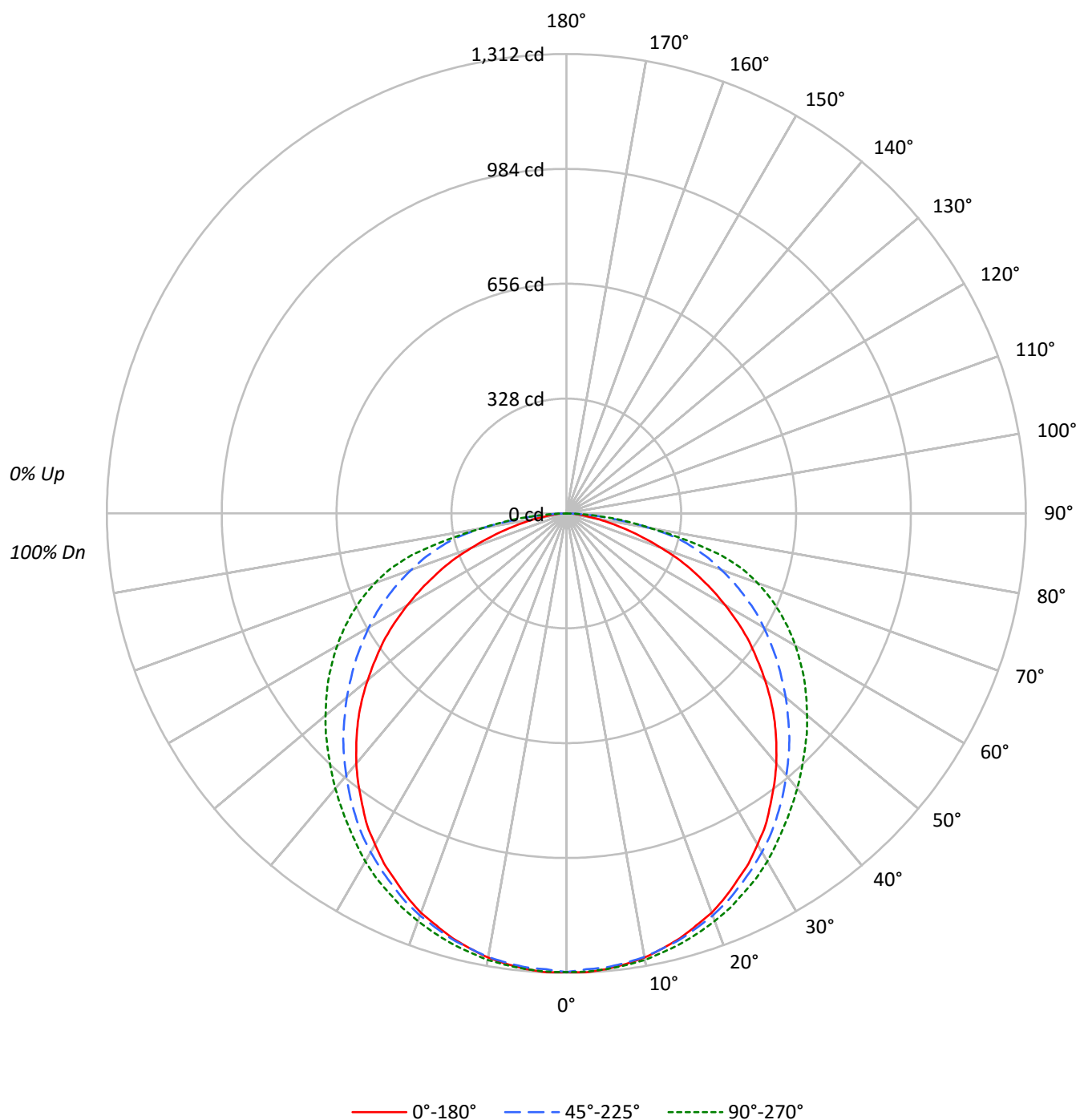
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1762	1762	1762
5°	1764	1758	1764
10°	1759	1757	1769
15°	1749	1754	1770
20°	1738	1750	1774
25°	1716	1741	1776
30°	1696	1736	1783
35°	1668	1727	1785
40°	1639	1716	1802
45°	1602	1714	1830
50°	1550	1712	1878
55°	1495	1725	1947
60°	1410	1751	2033
65°	1302	1792	2147
70°	1137	1855	2287
75°	923	1951	2363
80°	681	1912	1912
85°	522	1409	1592



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.1	3.1
10°-20°	356.3	8.8
20°-30°	542.4	13.4
30°-40°	658.6	16.3
40°-50°	695.9	17.2
50°-60°	656.6	16.3
60°-70°	546.0	13.5
70°-80°	359.2	8.9
80°-90°	97.9	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°	1022.8	25.3
0°-40°	1681.5	41.7
0°-60°	3034.0	75.2
0°-90°	4037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4037.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1310	1310	1310	1310	1310	
5°	1306	1306	1301	1306	1306	124
15°	1256	1257	1259	1271	1271	354
25°	1156	1163	1173	1193	1197	533
35°	1016	1028	1051	1078	1087	636
45°	842	859	901	945	962	648
55°	637	664	735	804	830	568
65°	409	456	563	646	674	404
75°	178	259	375	444	455	191
85°	34	74	91	101	103	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1309.8	1309.8	1309.8	1309.8	1309.8
2.5°	1311.5	1309.8	1303.0	1309.8	1309.8
5°	1306.4	1306.4	1301.4	1306.4	1306.4
7.5°	1298.0	1298.0	1294.6	1301.4	1301.4
10°	1287.8	1287.8	1286.1	1294.6	1294.6
12.5°	1272.6	1274.3	1272.6	1282.8	1282.8
15°	1255.7	1257.4	1259.1	1270.9	1270.9
17.5°	1233.8	1237.1	1240.5	1254.0	1255.7
20°	1213.5	1215.2	1221.9	1237.1	1238.8
22.5°	1186.4	1191.5	1200.0	1215.2	1220.2
25°	1156.0	1162.8	1172.9	1193.2	1196.6
27.5°	1127.3	1132.3	1145.9	1167.8	1174.6
30°	1091.8	1100.2	1117.1	1139.1	1147.6
32.5°	1058.0	1066.4	1086.7	1110.4	1117.1
35°	1015.7	1027.6	1051.2	1078.3	1086.7
37.5°	975.2	987.0	1015.7	1046.2	1056.3
40°	932.9	946.4	976.9	1012.4	1025.9
42.5°	887.3	905.9	939.7	978.6	993.8
45°	841.7	858.6	900.8	944.8	961.7
47.5°	792.6	812.9	858.6	911.0	931.2
50°	740.3	765.6	818.0	875.5	897.4
52.5°	687.9	716.6	775.7	840.0	863.6
55°	637.2	664.2	735.2	804.5	829.8
57.5°	581.4	615.2	692.9	767.3	792.6
60°	523.9	561.1	650.7	728.4	755.5
62.5°	466.5	508.7	610.1	687.9	716.6
65°	409.0	456.3	562.8	645.6	674.3
67.5°	353.2	405.6	518.9	601.7	630.4
70°	289.0	354.9	471.5	552.7	581.4
72.5°	229.9	305.9	425.9	502.0	527.3
75°	177.5	258.6	375.2	444.5	454.6
77.5°	130.1	211.3	322.8	346.5	348.2
80°	87.9	169.0	246.8	243.4	246.8
82.5°	57.5	126.8	155.5	174.1	175.8
85°	33.8	74.4	91.3	101.4	103.1
87.5°	16.9	25.4	32.1	33.8	37.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)