

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: P309763

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-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: P309763
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: 24FCZ2-70HE-UNV-L82765-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: 4433.0 lumens
Efficiency: N/A
Efficacy: 76.4 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

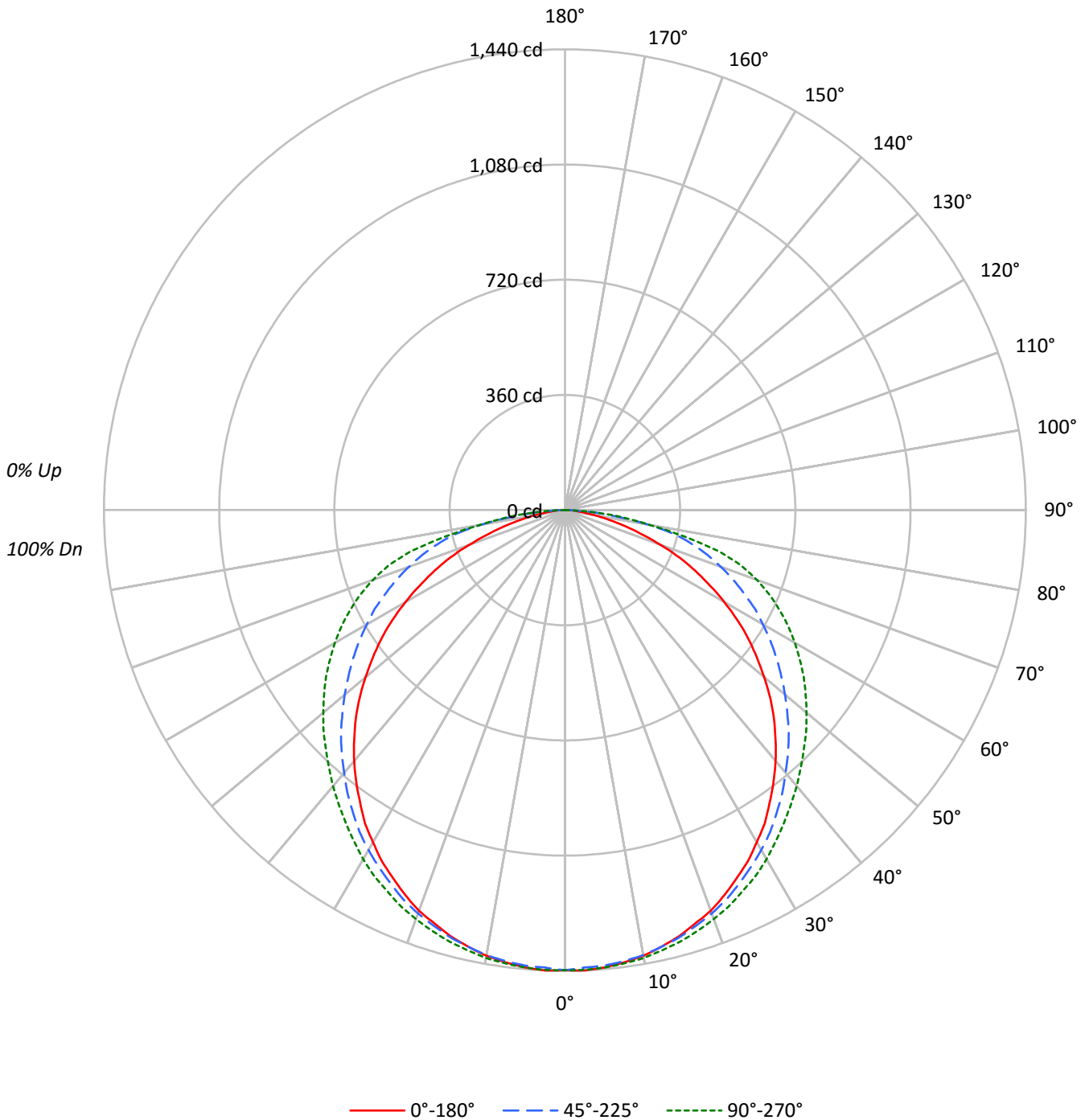
Input Watts (W): 58
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1935	1935	1935
5°	1938	1930	1938
10°	1932	1930	1942
15°	1921	1926	1944
20°	1908	1921	1948
25°	1885	1912	1951
30°	1863	1906	1958
35°	1832	1896	1960
40°	1799	1884	1979
45°	1759	1882	2009
50°	1702	1880	2063
55°	1641	1894	2137
60°	1548	1923	2232
65°	1430	1968	2358
70°	1249	2037	2511
75°	1013	2142	2595
80°	748	2100	2100
85°	573	1547	1748



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.2	3.1
10°-20°	391.3	8.8
20°-30°	595.6	13.4
30°-40°	723.3	16.3
40°-50°	764.1	17.2
50°-60°	721.0	16.3
60°-70°	599.5	13.5
70°-80°	394.4	8.9
80°-90°	107.5	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°	1123.2	25.3
0°-40°	1846.4	41.7
0°-60°	3331.6	75.2
0°-90°	4433.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4433.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1438	1438	1438	1438	1438	
5°	1435	1435	1429	1435	1435	136
15°	1379	1381	1383	1396	1396	389
25°	1269	1277	1288	1310	1314	586
35°	1115	1128	1154	1184	1193	698
45°	924	943	989	1037	1056	712
55°	700	729	807	883	911	623
65°	449	501	618	709	740	444
75°	195	284	412	488	499	210
85°	37	82	100	111	113	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1438.3	1438.3	1438.3	1438.3	1438.3
2.5°	1440.1	1438.3	1430.9	1438.3	1438.3
5°	1434.6	1434.6	1429.0	1434.6	1434.6
7.5°	1425.3	1425.3	1421.6	1429.0	1429.0
10°	1414.2	1414.2	1412.3	1421.6	1421.6
12.5°	1397.5	1399.3	1397.5	1408.6	1408.6
15°	1378.9	1380.8	1382.6	1395.6	1395.6
17.5°	1354.8	1358.5	1362.2	1377.0	1378.9
20°	1332.5	1334.4	1341.8	1358.5	1360.3
22.5°	1302.8	1308.4	1317.7	1334.4	1339.9
25°	1269.4	1276.8	1288.0	1310.2	1313.9
27.5°	1237.9	1243.4	1258.3	1282.4	1289.8
30°	1198.9	1208.2	1226.7	1250.8	1260.1
32.5°	1161.8	1171.0	1193.3	1219.3	1226.7
35°	1115.4	1128.4	1154.3	1184.0	1193.3
37.5°	1070.8	1083.8	1115.4	1148.8	1159.9
40°	1024.4	1039.3	1072.7	1111.7	1126.5
42.5°	974.3	994.7	1031.9	1074.5	1091.2
45°	924.2	942.8	989.2	1037.4	1056.0
47.5°	870.4	892.7	942.8	1000.3	1022.6
50°	812.9	840.7	898.2	961.3	985.5
52.5°	755.3	786.9	851.8	922.4	948.3
55°	699.7	729.4	807.3	883.4	911.2
57.5°	638.4	675.5	760.9	842.6	870.4
60°	575.3	616.1	714.5	799.9	829.6
62.5°	512.2	558.6	670.0	755.3	786.9
65°	449.1	501.1	618.0	708.9	740.5
67.5°	387.9	445.4	569.7	660.7	692.2
70°	317.4	389.7	517.8	606.9	638.4
72.5°	252.4	335.9	467.7	551.2	579.0
75°	194.9	283.9	412.0	488.1	499.2
77.5°	142.9	232.0	354.5	380.5	382.3
80°	96.5	185.6	271.0	267.2	271.0
82.5°	63.1	139.2	170.7	191.2	193.0
85°	37.1	81.7	100.2	111.4	113.2
87.5°	18.6	27.8	35.3	37.1	40.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)