

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: P309728

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CA08-W2A-U-4000K**

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: P309728
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-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4000K 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: 4881.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

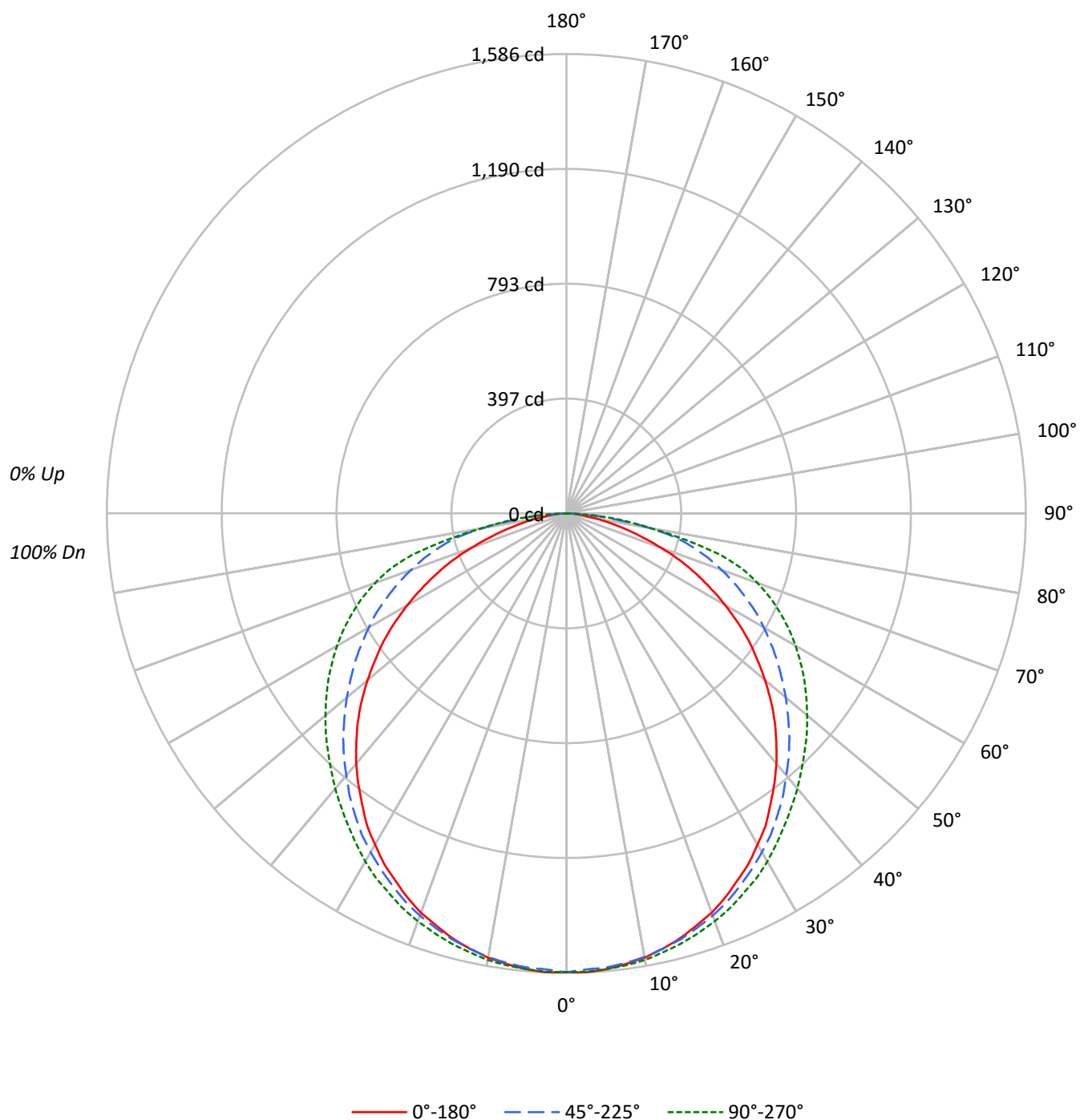
Input Watts (W): 58.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2131	2131	2131
5°	2133	2125	2133
10°	2127	2125	2139
15°	2115	2120	2140
20°	2101	2115	2145
25°	2075	2105	2148
30°	2051	2098	2156
35°	2017	2088	2158
40°	1981	2074	2179
45°	1936	2072	2212
50°	1873	2070	2271
55°	1807	2085	2354
60°	1705	2117	2458
65°	1574	2167	2596
70°	1375	2243	2765
75°	1116	2358	2858
80°	824	2311	2311
85°	631	1703	1924



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	3.1
10°-20°	430.8	8.8
20°-30°	655.8	13.4
30°-40°	796.4	16.3
40°-50°	841.3	17.2
50°-60°	793.9	16.3
60°-70°	660.1	13.5
70°-80°	434.3	8.9
80°-90°	118.4	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°	1236.7	25.3
0°-40°	2033.0	41.7
0°-60°	3668.3	75.2
0°-90°	4881.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4881.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1584	1584	1584	1584	1584	
5°	1580	1580	1573	1580	1580	150
15°	1518	1520	1522	1537	1537	428
25°	1398	1406	1418	1443	1447	645
35°	1228	1242	1271	1304	1314	769
45°	1018	1038	1089	1142	1163	784
55°	770	803	889	973	1003	686
65°	494	552	680	781	815	489
75°	215	313	454	537	550	231
85°	41	90	110	123	125	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1583.6	1583.6	1583.6	1583.6	1583.6
2.5°	1585.7	1583.6	1575.5	1583.6	1583.6
5°	1579.6	1579.6	1573.4	1579.6	1579.6
7.5°	1569.3	1569.3	1565.3	1573.4	1573.4
10°	1557.1	1557.1	1555.0	1565.3	1565.3
12.5°	1538.7	1540.7	1538.7	1550.9	1550.9
15°	1518.3	1520.3	1522.3	1536.6	1536.6
17.5°	1491.7	1495.8	1499.9	1516.2	1518.3
20°	1467.2	1469.2	1477.4	1495.8	1497.8
22.5°	1434.5	1440.6	1450.8	1469.2	1475.3
25°	1397.7	1405.9	1418.1	1442.6	1446.7
27.5°	1363.0	1369.1	1385.4	1412.0	1420.2
30°	1320.0	1330.3	1350.7	1377.3	1387.5
32.5°	1279.2	1289.4	1313.9	1342.5	1350.7
35°	1228.1	1242.4	1271.0	1303.7	1313.9
37.5°	1179.0	1193.4	1228.1	1264.9	1277.1
40°	1128.0	1144.3	1181.1	1224.0	1240.4
42.5°	1072.8	1095.3	1136.1	1183.1	1201.5
45°	1017.6	1038.1	1089.1	1142.3	1162.7
47.5°	958.4	982.9	1038.1	1101.4	1125.9
50°	895.0	925.7	989.0	1058.5	1085.1
52.5°	831.7	866.4	937.9	1015.6	1044.2
55°	770.4	803.1	888.9	972.7	1003.3
57.5°	702.9	743.8	837.8	927.7	958.4
60°	633.5	678.4	786.7	880.7	913.4
62.5°	564.0	615.1	737.7	831.7	866.4
65°	494.5	551.7	680.5	780.6	815.3
67.5°	427.1	490.4	627.3	727.5	762.2
70°	349.4	429.1	570.1	668.2	702.9
72.5°	277.9	369.9	514.9	606.9	637.5
75°	214.6	312.6	453.6	537.4	549.7
77.5°	157.3	255.4	390.3	418.9	420.9
80°	106.3	204.3	298.3	294.3	298.3
82.5°	69.5	153.3	188.0	210.5	212.5
85°	40.9	89.9	110.3	122.6	124.6
87.5°	20.4	30.7	38.8	40.9	45.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)