

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: P309810

Luminaire Tested: **24FCZ2-75HE-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: P309810
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: 24FCZ2-75HE-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: 4929.0 lumens
Efficiency: N/A
Efficacy: 77.0 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

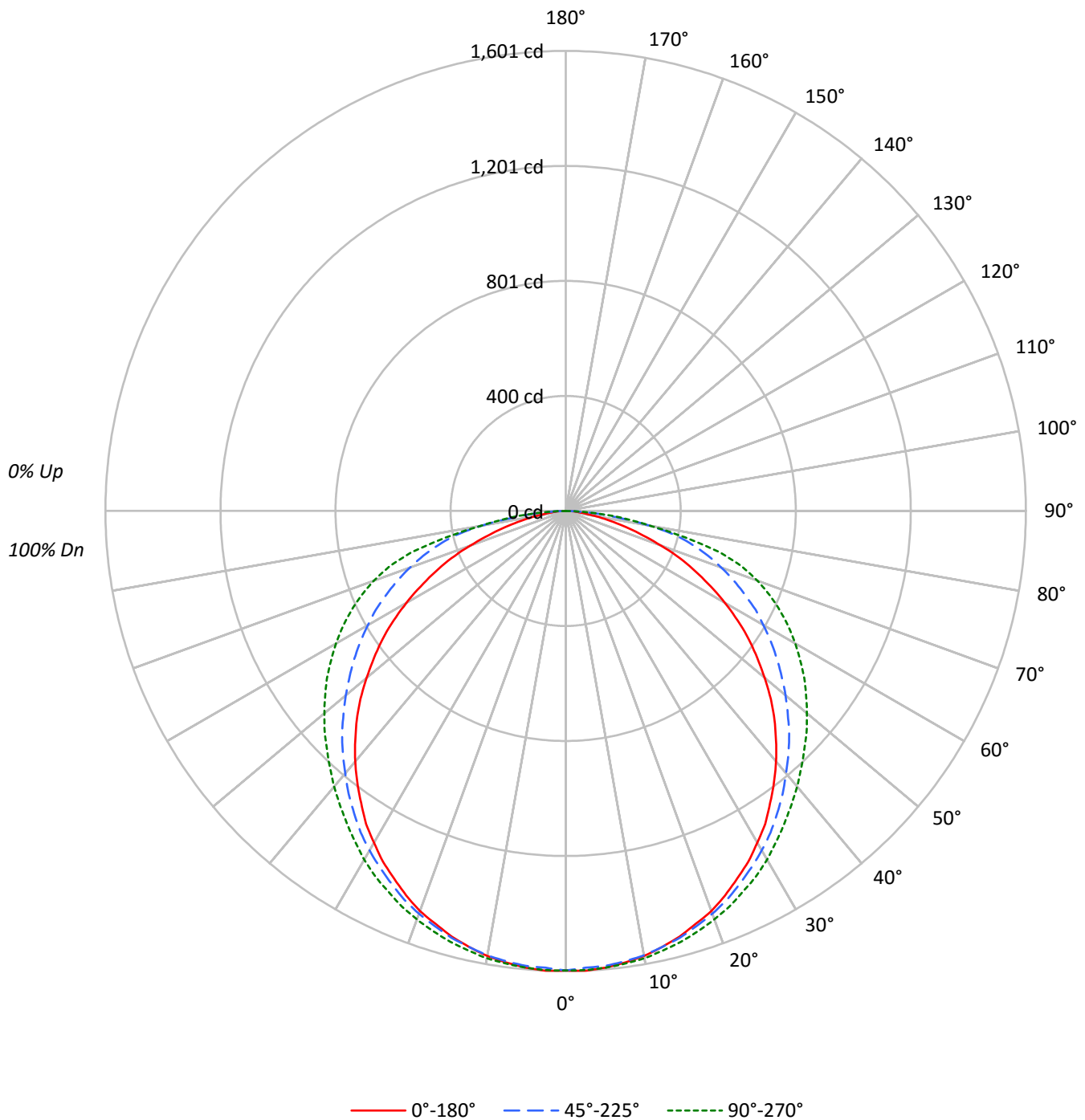
Input Watts (W): 64
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2152	2152	2152
5°	2154	2146	2154
10°	2148	2145	2159
15°	2136	2141	2162
20°	2121	2136	2166
25°	2095	2126	2169
30°	2071	2119	2177
35°	2037	2108	2179
40°	2001	2095	2200
45°	1955	2093	2234
50°	1892	2090	2294
55°	1825	2106	2377
60°	1721	2138	2482
65°	1590	2188	2621
70°	1388	2265	2792
75°	1127	2381	2886
80°	831	2335	2335
85°	638	1720	1944



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.5	3.1
10°-20°	435.0	8.8
20°-30°	662.3	13.4
30°-40°	804.2	16.3
40°-50°	849.6	17.2
50°-60°	801.7	16.3
60°-70°	666.6	13.5
70°-80°	438.5	8.9
80°-90°	119.5	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°	1248.8	25.3
0°-40°	2053.0	41.7
0°-60°	3704.3	75.2
0°-90°	4929.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4929.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1599	1599	1599	1599	1599	
5°	1595	1595	1589	1595	1595	152
15°	1533	1535	1537	1552	1552	432
25°	1411	1420	1432	1457	1461	651
35°	1240	1255	1284	1316	1327	776
45°	1028	1048	1100	1154	1174	791
55°	778	811	898	982	1013	693
65°	499	557	687	788	823	494
75°	217	316	458	543	555	233
85°	41	91	111	124	126	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1599.2	1599.2	1599.2	1599.2	1599.2
2.5°	1601.3	1599.2	1591.0	1599.2	1599.2
5°	1595.1	1595.1	1588.9	1595.1	1595.1
7.5°	1584.8	1584.8	1580.6	1588.9	1588.9
10°	1572.4	1572.4	1570.3	1580.6	1580.6
12.5°	1553.8	1555.9	1553.8	1566.2	1566.2
15°	1533.2	1535.2	1537.3	1551.8	1551.8
17.5°	1506.4	1510.5	1514.6	1531.1	1533.2
20°	1481.6	1483.7	1491.9	1510.5	1512.6
22.5°	1448.6	1454.8	1465.1	1483.7	1489.9
25°	1411.4	1419.7	1432.1	1456.8	1461.0
27.5°	1376.4	1382.5	1399.1	1425.9	1434.1
30°	1333.0	1343.3	1364.0	1390.8	1401.1
32.5°	1291.8	1302.1	1326.8	1355.7	1364.0
35°	1240.2	1254.6	1283.5	1316.5	1326.8
37.5°	1190.6	1205.1	1240.2	1277.3	1289.7
40°	1139.1	1155.6	1192.7	1236.0	1252.5
42.5°	1083.3	1106.0	1147.3	1194.8	1213.3
45°	1027.6	1048.3	1099.8	1153.5	1174.1
47.5°	967.8	992.5	1048.3	1112.2	1137.0
50°	903.8	934.8	998.7	1068.9	1095.7
52.5°	839.8	874.9	947.1	1025.6	1054.5
55°	777.9	811.0	897.6	982.2	1013.2
57.5°	709.8	751.1	846.0	936.8	967.8
60°	639.7	685.1	794.5	889.4	922.4
62.5°	569.5	621.1	744.9	839.8	874.9
65°	499.4	557.1	687.1	788.3	823.3
67.5°	431.3	495.2	633.5	734.6	769.7
70°	352.9	433.3	575.7	674.8	709.8
72.5°	280.6	373.5	520.0	612.9	643.8
75°	216.7	315.7	458.1	542.7	555.1
77.5°	158.9	257.9	394.1	423.0	425.1
80°	107.3	206.4	301.3	297.1	301.3
82.5°	70.2	154.8	189.8	212.5	214.6
85°	41.3	90.8	111.4	123.8	125.9
87.5°	20.6	31.0	39.2	41.3	45.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)