

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: P309729

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CA08-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: P309729
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-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC 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: 4968.0 lumens
Efficiency: N/A
Efficacy: 84.5 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

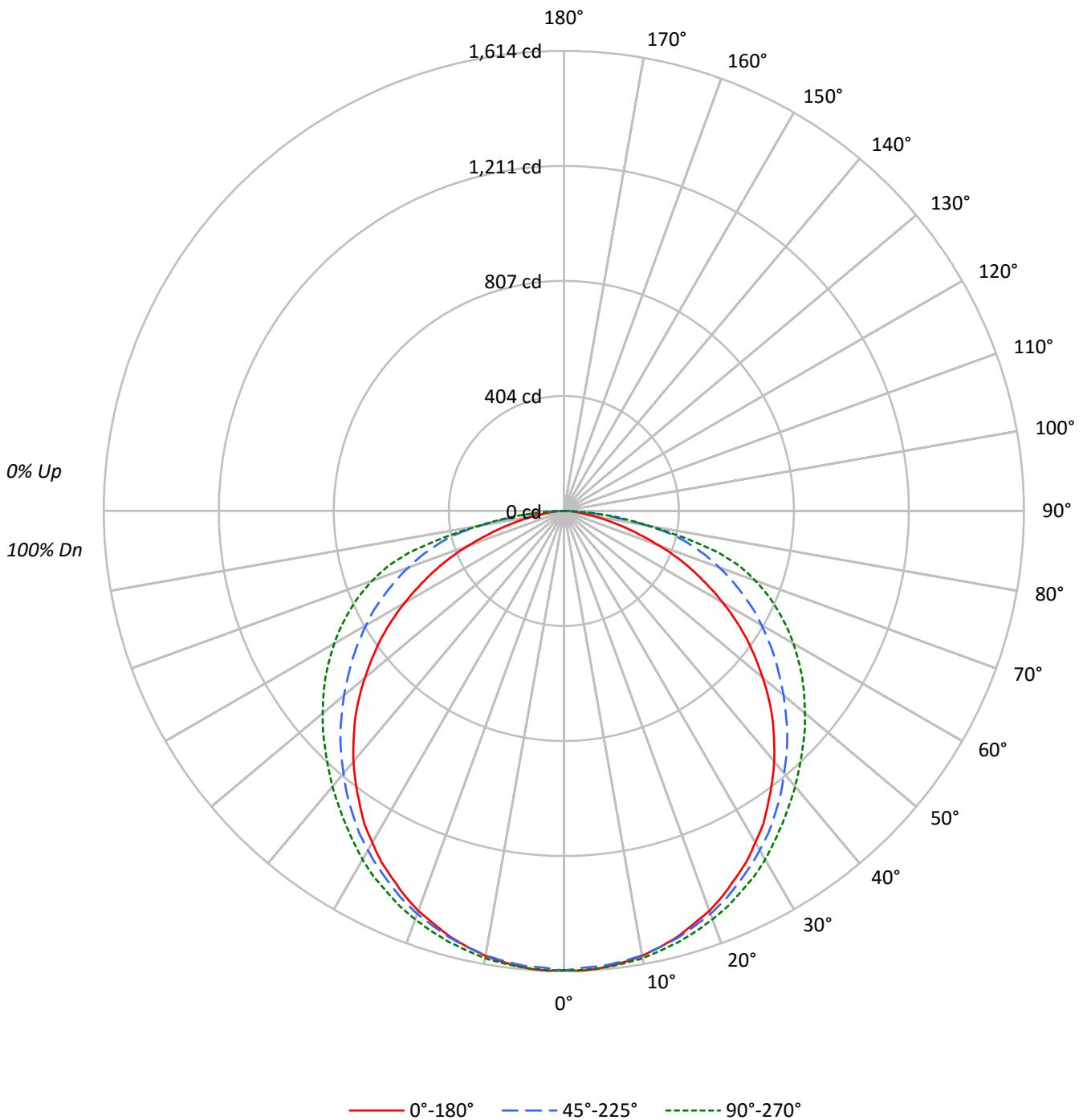
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2169	2169	2169
5°	2171	2163	2171
10°	2165	2162	2177
15°	2153	2158	2179
20°	2138	2153	2183
25°	2112	2143	2186
30°	2087	2136	2194
35°	2053	2125	2197
40°	2017	2111	2217
45°	1971	2109	2252
50°	1907	2107	2312
55°	1839	2122	2396
60°	1735	2155	2502
65°	1602	2205	2642
70°	1399	2283	2815
75°	1135	2400	2909
80°	838	2353	2353
85°	642	1734	1959



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.7	3.1
10°-20°	438.5	8.8
20°-30°	667.5	13.4
30°-40°	810.5	16.3
40°-50°	856.3	17.2
50°-60°	808.0	16.3
60°-70°	671.9	13.5
70°-80°	442.0	8.9
80°-90°	120.5	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°	1258.7	25.3
0°-40°	2069.3	41.7
0°-60°	3733.6	75.2
0°-90°	4968.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4968.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1612	1612	1612	1612	1612	
5°	1608	1608	1602	1608	1608	153
15°	1545	1547	1550	1564	1564	436
25°	1423	1431	1443	1468	1472	656
35°	1250	1264	1294	1327	1337	782
45°	1036	1057	1109	1163	1183	798
55°	784	817	905	990	1021	698
65°	503	562	693	794	830	498
75°	218	318	462	547	560	235
85°	42	92	112	125	127	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1611.9	1611.9	1611.9	1611.9	1611.9
2.5°	1614.0	1611.9	1603.6	1611.9	1611.9
5°	1607.7	1607.7	1601.5	1607.7	1607.7
7.5°	1597.3	1597.3	1593.2	1601.5	1601.5
10°	1584.8	1584.8	1582.8	1593.2	1593.2
12.5°	1566.1	1568.2	1566.1	1578.6	1578.6
15°	1545.3	1547.4	1549.5	1564.0	1564.0
17.5°	1518.3	1522.4	1526.6	1543.2	1545.3
20°	1493.3	1495.4	1503.7	1522.4	1524.5
22.5°	1460.0	1466.3	1476.7	1495.4	1501.6
25°	1422.6	1430.9	1443.4	1468.4	1472.5
27.5°	1387.2	1393.5	1410.1	1437.2	1445.5
30°	1343.6	1354.0	1374.8	1401.8	1412.2
32.5°	1302.0	1312.4	1337.3	1366.5	1374.8
35°	1250.0	1264.5	1293.7	1326.9	1337.3
37.5°	1200.1	1214.6	1250.0	1287.4	1299.9
40°	1148.1	1164.7	1202.1	1245.8	1262.5
42.5°	1091.9	1114.8	1156.4	1204.2	1222.9
45°	1035.8	1056.6	1108.6	1162.6	1183.4
47.5°	975.4	1000.4	1056.6	1121.0	1146.0
50°	911.0	942.2	1006.6	1077.4	1104.4
52.5°	846.5	881.8	954.6	1033.7	1062.8
55°	784.1	817.4	904.7	990.0	1021.2
57.5°	715.5	757.1	852.7	944.2	975.4
60°	644.7	690.5	800.7	896.4	929.7
62.5°	574.0	626.0	750.8	846.5	881.8
65°	503.3	561.6	692.6	794.5	829.9
67.5°	434.7	499.2	638.5	740.4	775.8
70°	355.7	436.8	580.3	680.1	715.5
72.5°	282.9	376.4	524.1	617.7	648.9
75°	218.4	318.2	461.7	547.0	559.5
77.5°	160.1	260.0	397.2	426.4	428.4
80°	108.2	208.0	303.7	299.5	303.7
82.5°	70.7	156.0	191.3	214.2	216.3
85°	41.6	91.5	112.3	124.8	126.9
87.5°	20.8	31.2	39.5	41.6	45.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)