

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: P309769

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-6500K**

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: P309769
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-6500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 6500K 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: 4744.0 lumens
Efficiency: N/A
Efficacy: 78.7 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

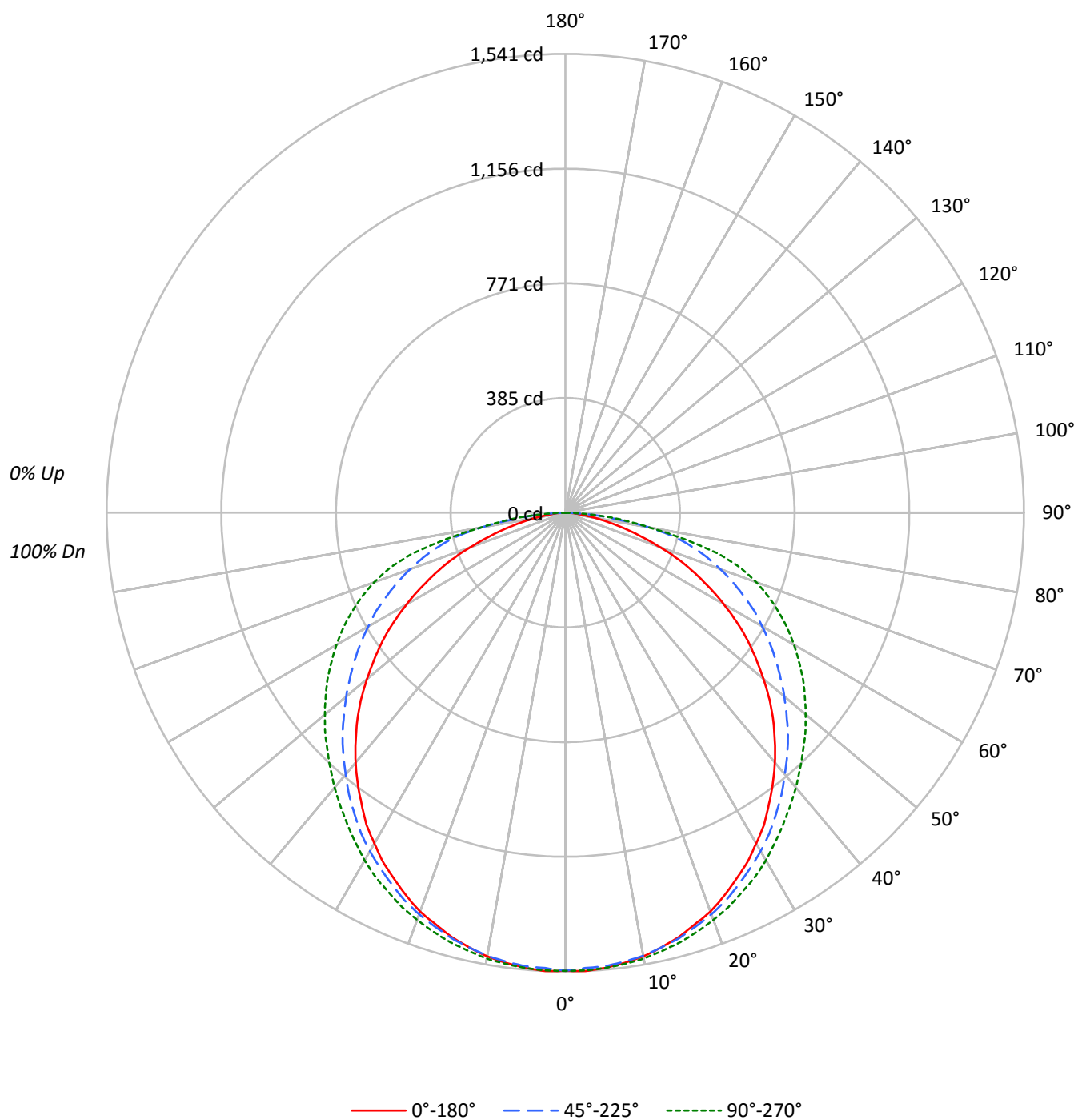
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P309769

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-6500K

Luminous Intensity Polar Plot





TEST NUMBER: P309769

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-6500K

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°	2071	2071	2071
5°	2073	2066	2073
10°	2068	2065	2078
15°	2055	2061	2080
20°	2042	2056	2084
25°	2017	2046	2087
30°	1993	2040	2095
35°	1961	2029	2098
40°	1926	2016	2117
45°	1882	2014	2150
50°	1821	2012	2207
55°	1756	2027	2288
60°	1657	2058	2389
65°	1530	2106	2523
70°	1336	2180	2688
75°	1084	2292	2777
80°	800	2247	2247
85°	613	1655	1870



TEST NUMBER: P309769

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-6500K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.8	3.1
10°-20°	418.7	8.8
20°-30°	637.4	13.4
30°-40°	774.0	16.3
40°-50°	817.7	17.2
50°-60°	771.6	16.3
60°-70°	641.6	13.5
70°-80°	422.1	8.9
80°-90°	115.1	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°	1202.0	25.3
0°-40°	1976.0	41.7
0°-60°	3565.3	75.2
0°-90°	4744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4744.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1539	1539	1539	1539	1539	
5°	1535	1535	1529	1535	1535	146
15°	1476	1478	1480	1494	1494	416
25°	1358	1366	1378	1402	1406	627
35°	1194	1208	1235	1267	1277	747
45°	989	1009	1059	1110	1130	762
55°	749	780	864	945	975	667
65°	481	536	661	759	792	475
75°	208	304	441	522	534	225
85°	40	87	107	119	121	49
90°	0	0	0	0	0	



TEST NUMBER: P309769

CATALOG NUMBER: 24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-6500K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1539.2	1539.2	1539.2	1539.2	1539.2
2.5°	1541.2	1539.2	1531.3	1539.2	1539.2
5°	1535.2	1535.2	1529.3	1535.2	1535.2
7.5°	1525.3	1525.3	1521.3	1529.3	1529.3
10°	1513.4	1513.4	1511.4	1521.3	1521.3
12.5°	1495.5	1497.5	1495.5	1507.4	1507.4
15°	1475.6	1477.6	1479.6	1493.5	1493.5
17.5°	1449.8	1453.8	1457.8	1473.7	1475.6
20°	1426.0	1428.0	1435.9	1453.8	1455.8
22.5°	1394.2	1400.2	1410.1	1428.0	1433.9
25°	1358.5	1366.4	1378.3	1402.2	1406.1
27.5°	1324.7	1330.7	1346.5	1372.4	1380.3
30°	1283.0	1292.9	1312.8	1338.6	1348.5
32.5°	1243.3	1253.2	1277.0	1304.8	1312.8
35°	1193.6	1207.5	1235.3	1267.1	1277.0
37.5°	1146.0	1159.9	1193.6	1229.4	1241.3
40°	1096.3	1112.2	1147.9	1189.6	1205.5
42.5°	1042.7	1064.5	1104.2	1149.9	1167.8
45°	989.1	1008.9	1058.6	1110.2	1130.1
47.5°	931.5	955.3	1008.9	1070.5	1094.3
50°	869.9	899.7	961.3	1028.8	1054.6
52.5°	808.3	842.1	911.6	987.1	1014.9
55°	748.7	780.5	863.9	945.4	975.2
57.5°	683.2	722.9	814.3	901.7	931.5
60°	615.7	659.4	764.6	856.0	887.8
62.5°	548.2	597.8	717.0	808.3	842.1
65°	480.6	536.2	661.4	758.7	792.4
67.5°	415.1	476.7	609.7	707.0	740.8
70°	339.6	417.1	554.1	649.4	683.2
72.5°	270.1	359.5	500.5	589.9	619.6
75°	208.5	303.9	440.9	522.3	534.2
77.5°	152.9	248.3	379.3	407.1	409.1
80°	103.3	198.6	290.0	286.0	290.0
82.5°	67.5	149.0	182.7	204.6	206.5
85°	39.7	87.4	107.2	119.2	121.1
87.5°	19.9	29.8	37.7	39.7	43.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)