

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: P309711

Luminaire Tested: **24FCZ2-65HE-UNV-L82765-HRP-CP187-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: P309711
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: 24FCZ2-65HE-UNV-L82765-HRP-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
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: 4309.0 lumens
Efficiency: N/A
Efficacy: 80.4 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

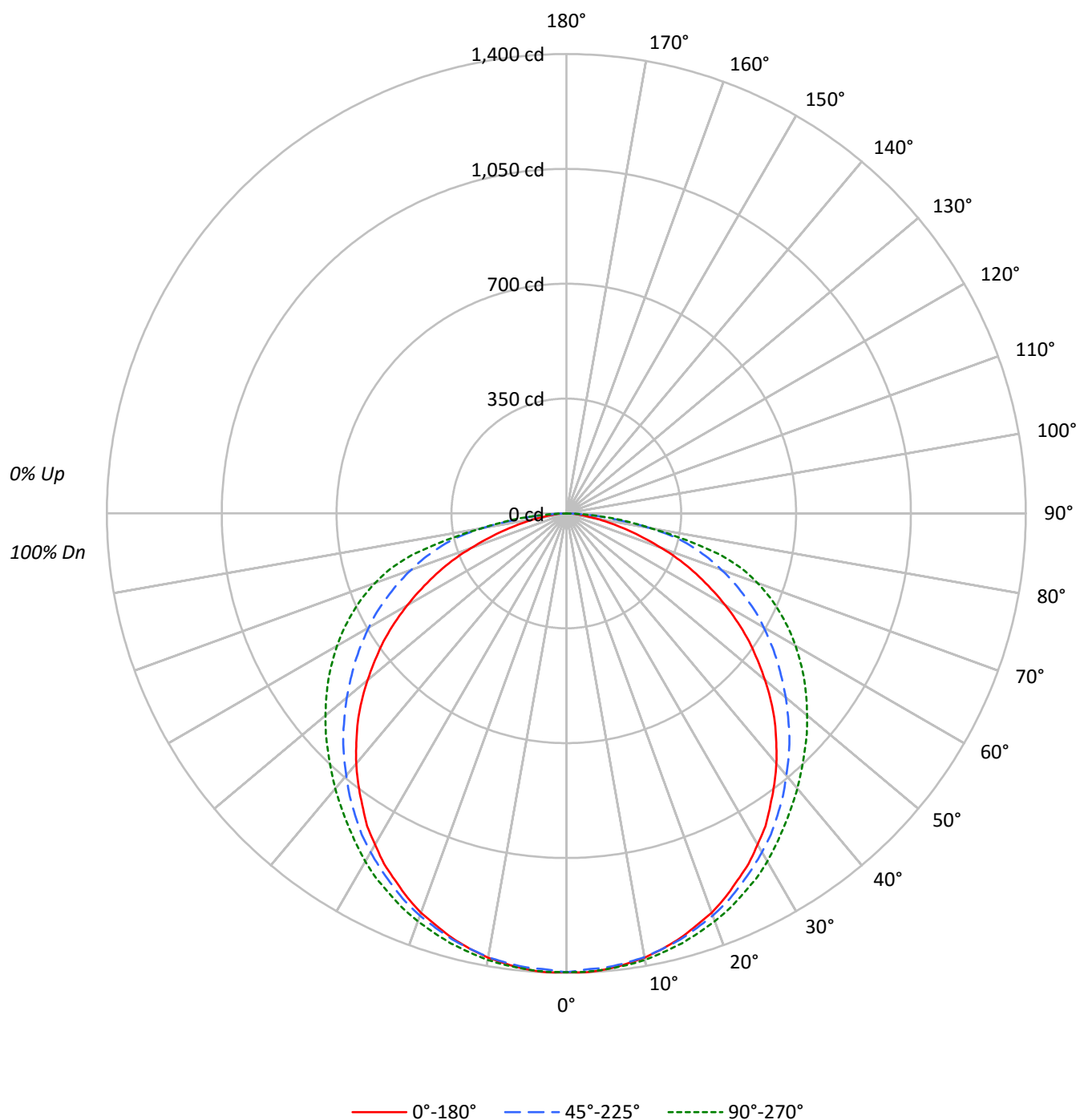
Input Watts (W): 53.6
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1881	1881	1881
5°	1883	1876	1883
10°	1878	1876	1888
15°	1867	1872	1890
20°	1855	1868	1893
25°	1832	1859	1896
30°	1810	1853	1903
35°	1781	1843	1905
40°	1749	1831	1923
45°	1709	1830	1953
50°	1654	1828	2005
55°	1595	1841	2078
60°	1505	1869	2170
65°	1390	1912	2292
70°	1214	1980	2441
75°	985	2082	2523
80°	727	2041	2041
85°	557	1504	1698



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.4	3.1
10°-20°	380.3	8.8
20°-30°	579.0	13.4
30°-40°	703.0	16.3
40°-50°	742.7	17.2
50°-60°	700.9	16.3
60°-70°	582.7	13.5
70°-80°	383.4	8.9
80°-90°	104.5	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°	1091.7	25.3
0°-40°	1794.8	41.7
0°-60°	3238.4	75.2
0°-90°	4309.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4309.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1398	1398	1398	1398	1398	
5°	1394	1394	1389	1394	1394	132
15°	1340	1342	1344	1357	1357	378
25°	1234	1241	1252	1274	1277	569
35°	1084	1097	1122	1151	1160	679
45°	898	916	962	1008	1026	692
55°	680	709	785	859	886	606
65°	437	487	601	689	720	432
75°	189	276	400	474	485	204
85°	36	79	97	108	110	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1398.1	1398.1	1398.1	1398.1	1398.1
2.5°	1399.9	1398.1	1390.8	1398.1	1398.1
5°	1394.5	1394.5	1389.0	1394.5	1394.5
7.5°	1385.4	1385.4	1381.8	1389.0	1389.0
10°	1374.6	1374.6	1372.8	1381.8	1381.8
12.5°	1358.4	1360.2	1358.4	1369.2	1369.2
15°	1340.3	1342.1	1343.9	1356.6	1356.6
17.5°	1316.9	1320.5	1324.1	1338.5	1340.3
20°	1295.2	1297.0	1304.3	1320.5	1322.3
22.5°	1266.4	1271.8	1280.8	1297.0	1302.4
25°	1233.9	1241.1	1251.9	1273.6	1277.2
27.5°	1203.2	1208.6	1223.1	1246.5	1253.7
30°	1165.3	1174.4	1192.4	1215.9	1224.9
32.5°	1129.3	1138.3	1159.9	1185.2	1192.4
35°	1084.2	1096.8	1122.1	1150.9	1159.9
37.5°	1040.9	1053.5	1084.2	1116.6	1127.5
40°	995.8	1010.2	1042.7	1080.6	1095.0
42.5°	947.1	966.9	1003.0	1044.5	1060.7
45°	898.4	916.4	961.5	1008.4	1026.4
47.5°	846.1	867.7	916.4	972.3	994.0
50°	790.1	817.2	873.1	934.4	957.9
52.5°	734.2	764.9	828.0	896.6	921.8
55°	680.1	709.0	784.7	858.7	885.7
57.5°	620.6	656.6	739.6	819.0	846.1
60°	559.2	598.9	694.5	777.5	806.4
62.5°	497.9	543.0	651.2	734.2	764.9
65°	436.6	487.1	600.7	689.1	719.8
67.5°	377.0	432.9	553.8	642.2	672.9
70°	308.5	378.8	503.3	589.9	620.6
72.5°	245.3	326.5	454.6	535.8	562.8
75°	189.4	276.0	400.5	474.4	485.3
77.5°	138.9	225.5	344.6	369.8	371.6
80°	93.8	180.4	263.4	259.8	263.4
82.5°	61.3	135.3	166.0	185.8	187.6
85°	36.1	79.4	97.4	108.2	110.0
87.5°	18.0	27.1	34.3	36.1	39.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)