

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: 17900

Luminaire Tested: **MB-SH-2T5**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 17900
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: MB-SH-2T5
Description: DIRECT/INDIRECT SUSPENDED LUMINAIRE - MINIGATOR WHITE INTERIOR WITH
SPECULAR REFLECTORS AND 38 CELL HI PERFORMANCE LOUVER BLADE
Light Source: TWO PHILIPS 54 WATT T5 LAMPS

F54T5.841HO. LUMEN RATING = 4500 LMS.

Ballast/Driver: -

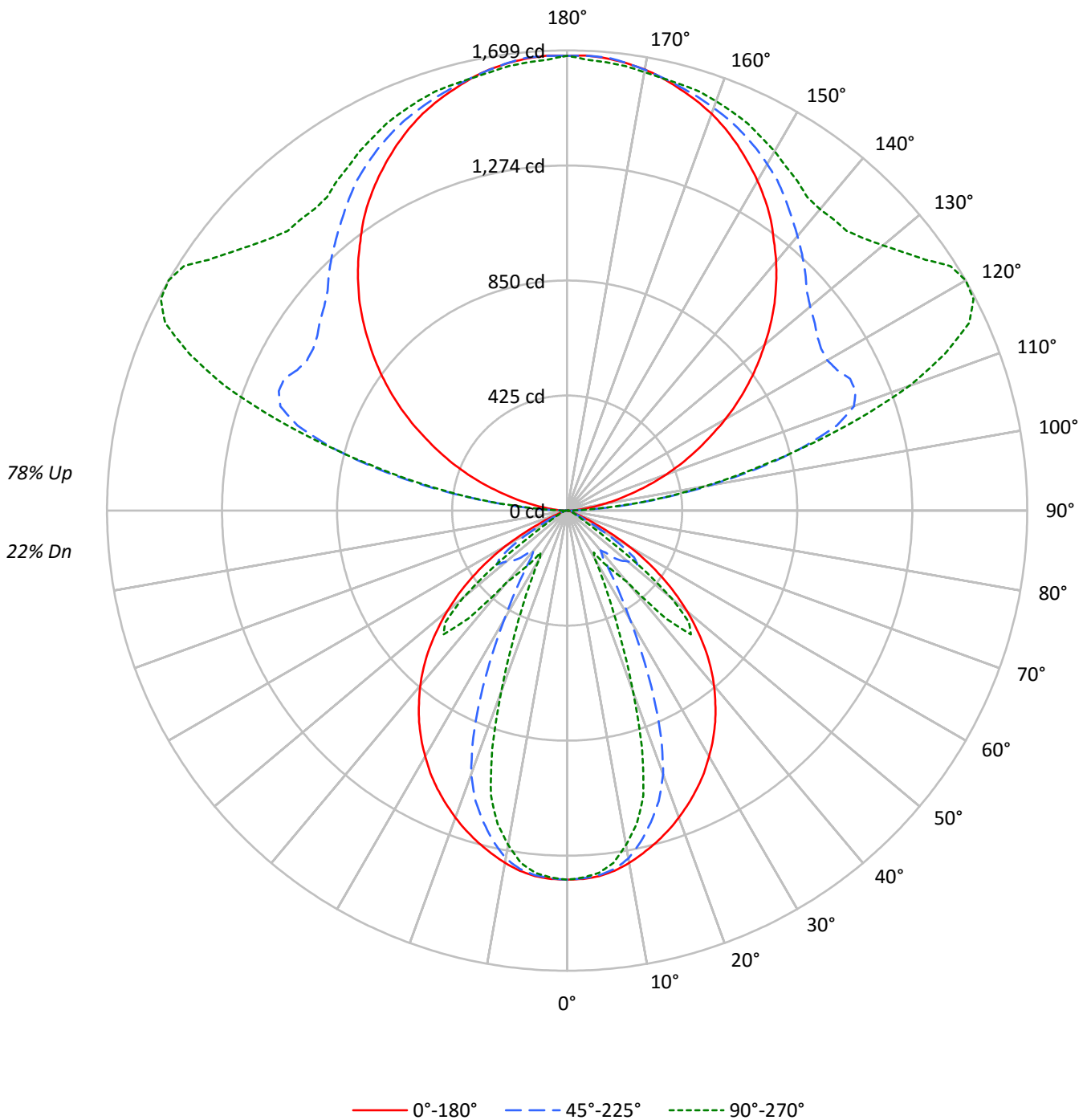
Summary

Lumens per Lamp: 4500 (2 lamps)
Luminaire Lumens: 8033.1 lumens
Efficiency: 89.3%
Efficacy: 65.8 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 0.68 / 0.78
Luminous Opening: Rectangular (W 0.22' x L: 3.59' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 122
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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CATALOG NUMBER: MB-SH-2T5

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	90	90	90	90	79	79	79	79	60	60	60	43	43	43	27	27	27	19
1	82	79	76	73	73	70	67	65	53	52	50	38	37	37	24	24	24	17
2	75	69	64	60	67	62	58	54	47	45	42	34	33	31	22	21	21	15
3	69	61	55	51	61	55	50	46	42	39	36	31	29	27	20	19	18	14
4	63	54	48	43	56	49	43	39	38	34	31	28	25	24	18	17	16	12
5	58	49	42	37	51	44	38	34	34	30	27	25	23	21	17	15	14	11
6	54	44	37	32	47	39	34	29	31	27	24	23	20	18	15	14	13	10
7	50	39	33	28	44	36	30	26	28	24	21	21	18	16	14	13	12	9
8	46	36	29	25	41	32	27	23	26	22	19	19	17	15	13	12	11	8
9	43	33	27	22	38	30	24	21	23	20	17	18	15	13	12	11	10	8
10	40	30	24	20	36	27	22	18	22	18	15	16	14	12	11	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18576	18576	18576
5°	18539	18487	18369
10°	18281	18043	17339
15°	17896	16824	15352
20°	17498	15033	10313
25°	17045	11340	5811
30°	16491	7288	3163
35°	15856	4599	3975
40°	15008	3423	6092
45°	13879	4822	12453
50°	12249	6159	10644
55°	10105	7171	4089
60°	7196	4138	1701
65°	3431	1525	1116
70°	1379	1036	885
75°	969	895	843
80°	848	934	1036
85°	672	1048	1470



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	127.3	1.6	1.4
10°-20°	328.2	4.1	3.6
20°-30°	348.2	4.3	3.9
30°-40°	289.9	3.6	3.2
40°-50°	326.4	4.1	3.6
50°-60°	224.0	2.8	2.5
60°-70°	58.6	0.7	0.7
70°-80°	19.0	0.2	0.2
80°-90°	7.1	0.1	0.1
90°-100°	212.5	2.6	2.4
100°-110°	770.4	9.6	8.6
110°-120°	1080.5	13.5	12.0
120°-130°	1060.3	13.2	11.8
130°-140°	978.1	12.2	10.9
140°-150°	877.4	10.9	9.7
150°-160°	707.3	8.8	7.9
160°-170°	458.7	5.7	5.1
170°-180°	159.2	2.0	1.8
0°-30°	803.6	10.0	8.9
0°-40°	1093.6	13.6	12.2
0°-60°	1644.0	20.5	18.3
0°-90°	1728.7	21.5	19.2
90°-120°	2063.4	25.7	22.9
90°-150°	4979.2	62.0	55.3
90°-180°	6304.0	78.5	70.0
0°-180°	8033.1	100.0	89.3

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1363	1363	1363	1363	1363	
5°	1355	1358	1351	1345	1343	128
15°	1268	1258	1192	1126	1088	357
25°	1134	1056	754	457	386	521
35°	953	747	276	205	239	594
45°	720	343	250	499	646	552
55°	425	159	302	233	172	378
65°	106	50	47	37	35	121
75°	18	17	17	17	16	21
85°	4	3	7	7	9	5
90°	0	0	0	0	0	2
95°	46	177	197	202	182	56
105°	250	553	899	946	908	269
115°	528	682	1152	1509	1638	524
125°	817	894	1126	1484	1615	729
135°	1083	1145	1243	1396	1460	834
145°	1311	1353	1404	1470	1484	819
155°	1489	1499	1537	1568	1577	686
165°	1611	1622	1619	1630	1628	455
175°	1676	1682	1679	1674	1661	159
180°	1679	1679	1679	1679	1679	



TEST NUMBER: 17900
 CATALOG NUMBER: MB-SH-2T5

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1363.0	1363.0	1363.0	1363.0	1363.0
2.5°	1361.3	1363.7	1358.9	1355.4	1356.4
5°	1355.1	1357.8	1351.3	1345.1	1342.7
7.5°	1341.3	1341.7	1335.1	1322.7	1311.4
10°	1321.0	1322.4	1303.8	1274.6	1252.9
12.5°	1295.9	1296.2	1253.3	1208.9	1185.1
15°	1268.4	1258.1	1192.4	1126.0	1088.1
17.5°	1239.5	1223.0	1124.6	999.7	919.3
20°	1206.5	1173.4	1036.5	809.5	711.1
22.5°	1171.0	1118.4	906.5	616.9	523.3
25°	1133.5	1056.5	754.1	457.0	386.4
27.5°	1093.3	986.0	598.0	333.1	280.5
30°	1047.9	919.3	463.1	255.0	201.0
32.5°	1002.5	836.4	358.6	202.4	183.5
35°	953.0	746.6	276.4	204.8	238.9
37.5°	899.0	630.7	216.2	245.1	281.9
40°	843.6	536.1	192.4	291.5	342.4
42.5°	784.4	430.5	210.0	373.7	541.2
45°	720.1	343.4	250.2	498.6	646.1
47.5°	649.6	272.9	274.0	545.0	609.3
50°	577.7	224.8	290.5	474.5	502.0
52.5°	503.4	191.1	327.3	369.9	339.7
55°	425.3	159.4	301.8	232.7	172.1
57.5°	347.2	139.1	229.9	135.3	90.3
60°	264.0	107.8	151.8	70.0	62.4
62.5°	177.3	72.4	82.7	47.3	44.9
65°	106.4	49.7	47.3	37.3	34.6
67.5°	58.6	32.1	33.5	28.4	28.4
70°	34.6	23.2	26.0	25.6	22.2
72.5°	25.6	20.8	22.2	18.0	19.4
75°	18.4	17.0	17.0	17.0	16.0
77.5°	12.2	14.3	15.6	17.0	14.6
80°	10.8	11.9	11.9	11.9	13.2
82.5°	8.1	6.7	9.4	8.4	11.9
85°	4.3	3.3	6.7	7.0	9.4
87.5°	2.6	1.2	5.7	9.4	7.0
90°	0.5	0.5	0.5	0.5	0.5
92.5°	14.6	58.6	64.8	78.9	51.1
95°	45.9	177.3	197.3	202.4	182.1
97.5°	85.1	317.0	353.4	364.8	343.4
100°	134.3	449.0	532.3	593.2	514.7
102.5°	189.7	479.3	722.8	687.4	698.8
105°	249.9	552.6	899.0	945.7	907.9
107.5°	318.3	571.5	1044.1	1132.2	1131.1
110°	388.8	595.6	1127.0	1311.0	1344.1



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CATALOG NUMBER: MB-SH-2T5

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	459.4	638.6	1152.5	1435.9	1507.8
115°	528.5	682.3	1152.5	1509.2	1637.5
117.5°	599.0	732.5	1123.6	1535.3	1691.5
120°	674.7	789.6	1109.5	1533.9	1699.4
122.5°	746.6	866.3	1112.2	1501.3	1679.1
125°	817.1	894.1	1126.0	1483.7	1614.8
127.5°	885.2	970.8	1150.1	1429.7	1565.6
130°	951.9	1030.0	1171.0	1398.1	1522.6
132.5°	1018.7	1090.6	1199.9	1387.7	1486.5
135°	1083.0	1144.6	1243.3	1395.7	1460.0
137.5°	1142.5	1196.2	1283.5	1399.1	1457.2
140°	1200.3	1246.7	1322.7	1406.7	1452.4
142.5°	1254.3	1293.5	1363.0	1432.1	1457.2
145°	1311.4	1352.7	1404.3	1470.0	1483.7
147.5°	1360.2	1371.6	1444.8	1482.3	1505.0
150°	1405.6	1421.8	1477.5	1514.0	1531.9
152.5°	1448.3	1463.4	1508.8	1543.2	1553.2
155°	1488.9	1498.8	1536.7	1568.0	1577.3
157.5°	1526.4	1531.5	1561.8	1586.9	1593.4
160°	1559.4	1563.2	1581.7	1606.9	1608.6
162.5°	1586.9	1595.8	1602.0	1621.0	1622.3
165°	1611.0	1622.3	1618.6	1629.6	1628.5
167.5°	1634.7	1647.4	1636.1	1645.0	1634.7
170°	1654.0	1655.0	1652.6	1648.8	1643.7
172.5°	1666.4	1672.6	1667.7	1665.0	1655.0
175°	1676.3	1682.5	1679.1	1673.9	1661.2
177.5°	1681.5	1688.0	1680.5	1679.1	1666.4
180°	1679.2	1679.2	1679.2	1679.2	1679.2

(END OF REPORT)