

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: 17902

Luminaire Tested: **MB-SB-3T5**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 17902
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: MB-SB-3T5
Description: DIRECT/INDIRECT SUSPENDED LUMINAIRE - MINIGATOR WHITE INTERIOR WITH
SPECULAR REFLECTORS AND 19 CELL SEMI-SPECULAR LOUVER BLADE
Light Source: THREE PHILIPS 54 WATT T5 LAMPS

F54T5.841HO. LUMEN RATING = 4500 LMS.

Ballast/Driver: -

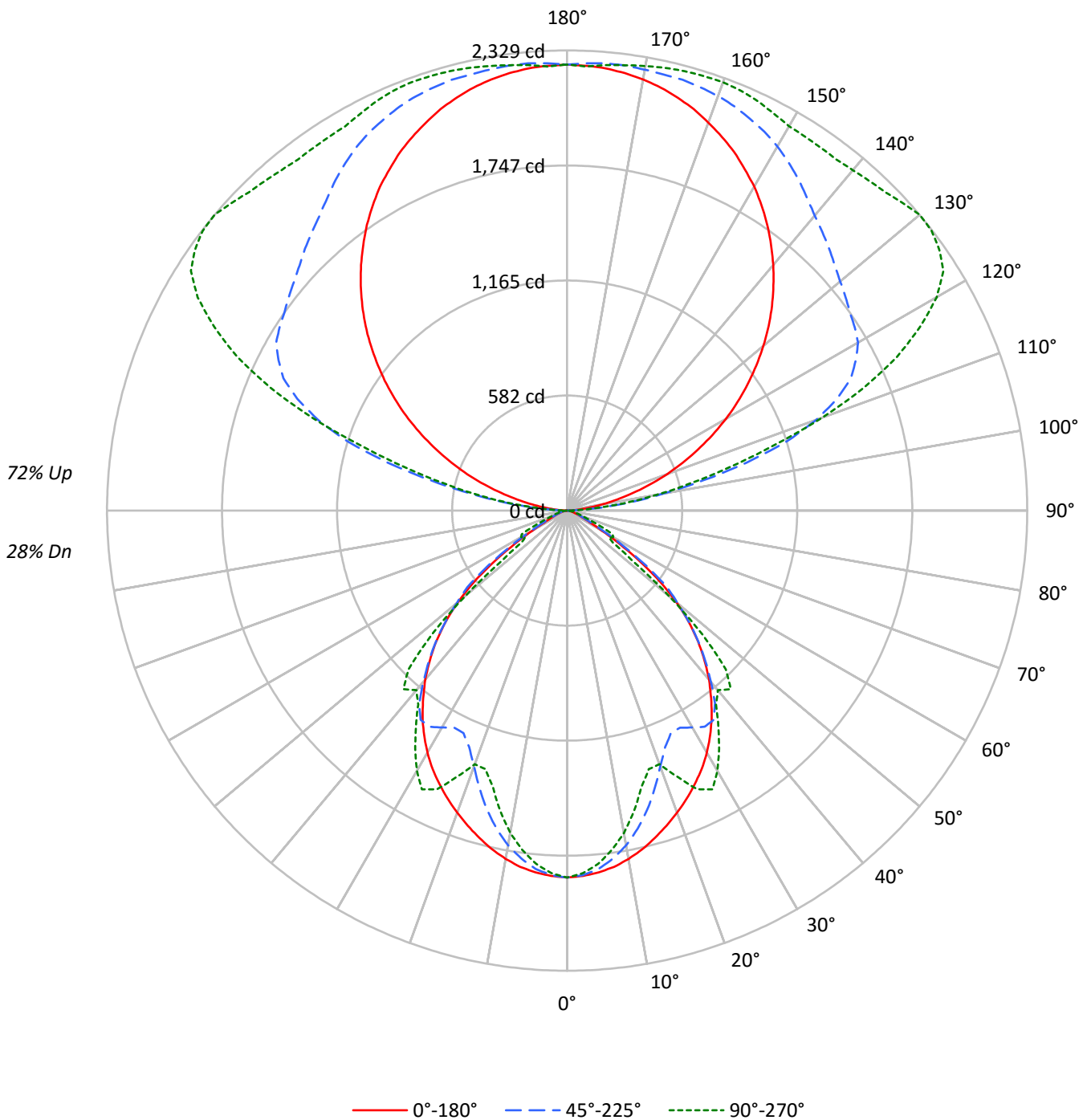
Summary

Lumens per Lamp: 4500 (3 lamps)
Luminaire Lumens: 11903.8 lumens
Efficiency: 88.2%
Efficacy: 66.1 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.21 / 1.24
Luminous Opening: Rectangular (W 0.22' x L: 3.59' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 180
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				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	80	80	80	80	63	63	63	47	47	47	32	32	32	25
1	82	79	76	73	74	71	68	66	56	54	53	42	41	40	29	28	28	22
2	76	70	65	61	68	63	59	55	49	47	44	37	36	34	26	25	24	19
3	69	62	56	51	62	56	51	47	44	41	38	33	31	29	24	22	21	17
4	63	55	48	44	57	49	44	40	39	36	33	30	28	26	21	20	19	15
5	58	49	42	37	52	44	39	34	35	31	28	27	25	22	19	18	17	13
6	54	44	37	33	48	40	34	30	32	28	25	25	22	20	18	16	15	12
7	50	40	33	29	45	36	30	26	29	25	22	22	20	18	16	15	13	11
8	46	36	30	25	41	33	27	23	26	22	19	21	18	16	15	13	12	10
9	43	33	27	22	38	30	24	21	24	20	17	19	16	14	14	12	11	9
10	40	30	24	20	36	27	22	19	22	18	16	17	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25313	25313	25313
5°	25142	24907	24557
10°	24774	23808	22914
15°	24200	22115	20467
20°	23594	19977	19812
25°	22977	18677	23398
30°	22252	19947	23927
35°	21233	21509	22204
40°	19871	20136	21107
45°	18060	18139	21893
50°	15310	15471	14394
55°	10723	11659	6693
60°	5503	6332	7338
65°	2967	3370	5866
70°	2044	2251	3256
75°	1643	1917	2443
80°	1154	1750	2237
85°	719	1704	2299



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ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	170.6	1.4	1.3
10°-20°	443.0	3.7	3.3
20°-30°	649.2	5.5	4.8
30°-40°	774.7	6.5	5.7
40°-50°	727.6	6.1	5.4
50°-60°	390.3	3.3	2.9
60°-70°	127.9	1.1	0.9
70°-80°	41.6	0.3	0.3
80°-90°	11.7	0.1	0.1
90°-100°	195.4	1.6	1.4
100°-110°	840.1	7.1	6.2
110°-120°	1393.1	11.7	10.3
120°-130°	1551.2	13.0	11.5
130°-140°	1461.2	12.3	10.8
140°-150°	1272.9	10.7	9.4
150°-160°	1001.1	8.4	7.4
160°-170°	635.9	5.3	4.7
170°-180°	216.1	1.8	1.6
0°-30°	1262.9	10.6	9.4
0°-40°	2037.5	17.1	15.1
0°-60°	3155.4	26.5	23.4
0°-90°	3336.6	28.0	24.7
90°-120°	2428.7	20.4	18.0
90°-150°	6714.1	56.4	49.7
90°-180°	8567.0	72.0	63.5
0°-180°	11903.8	100.0	88.2

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1857	1857	1857	1857	1857	
5°	1838	1835	1821	1803	1795	174
15°	1715	1665	1567	1484	1451	483
25°	1528	1389	1242	1450	1556	703
35°	1276	1085	1293	1314	1335	795
45°	937	866	941	1045	1136	716
55°	451	470	491	326	282	404
65°	92	91	104	155	182	102
75°	31	32	36	43	46	33
85°	5	7	11	13	15	6
90°	0	0	0	0	0	3
95°	58	156	169	167	145	73
105°	345	757	941	911	854	369
115°	729	1040	1585	1761	1843	723
125°	1116	1322	1747	2140	2300	996
135°	1466	1642	1876	2170	2278	1130
145°	1766	1905	2043	2186	2241	1104
155°	2002	2081	2188	2266	2286	922
165°	2163	2208	2257	2297	2302	610
175°	2247	2264	2272	2272	2263	213
180°	2257	2257	2257	2257	2257	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1857.3	1857.3	1857.3	1857.3	1857.3
2.5°	1850.6	1853.4	1846.8	1843.0	1836.8
5°	1837.8	1835.4	1820.6	1802.6	1795.0
7.5°	1818.8	1811.6	1776.4	1752.2	1733.2
10°	1790.2	1769.8	1720.4	1674.8	1655.8
12.5°	1756.0	1725.6	1649.2	1593.6	1559.8
15°	1715.2	1664.8	1567.4	1483.8	1450.6
17.5°	1672.4	1606.8	1473.8	1395.4	1372.2
20°	1626.8	1535.6	1377.4	1348.4	1366.0
22.5°	1579.8	1463.7	1295.5	1375.0	1458.6
25°	1528.0	1388.8	1242.0	1449.6	1556.0
27.5°	1475.1	1310.7	1238.2	1505.2	1591.2
30°	1414.0	1233.3	1267.5	1486.2	1520.4
32.5°	1347.3	1148.7	1296.6	1402.6	1430.6
35°	1276.2	1085.2	1292.8	1314.2	1334.6
37.5°	1196.4	1013.3	1229.5	1206.7	1238.2
40°	1116.9	966.0	1131.8	1127.0	1186.4
42.5°	1029.5	914.5	1037.1	1076.2	1225.7
45°	937.0	866.2	941.1	1044.7	1135.9
47.5°	835.8	808.1	837.1	921.8	928.3
50°	722.1	723.1	729.7	708.3	678.9
52.5°	595.7	615.7	637.5	515.9	410.9
55°	451.3	470.3	490.7	325.9	281.7
57.5°	313.1	346.3	348.7	253.7	251.3
60°	201.9	208.4	232.3	223.6	269.2
62.5°	128.7	134.9	152.5	201.9	258.9
65°	92.0	90.7	104.5	155.3	181.9
67.5°	67.9	67.9	73.0	101.0	117.3
70°	51.3	51.6	56.5	73.0	81.7
72.5°	38.8	41.3	45.1	54.0	62.7
75°	31.2	32.3	36.4	42.6	46.4
77.5°	22.3	28.8	29.9	32.6	38.5
80°	14.7	20.9	22.3	25.0	28.5
82.5°	10.9	12.2	17.1	18.5	20.9
85°	4.6	7.1	10.9	13.3	14.7
87.5°	1.9	1.9	6.0	8.4	8.4
90°	0.5	0.5	0.5	0.5	0.5
92.5°	15.7	46.4	48.9	65.1	36.1
95°	57.8	156.3	169.1	166.7	145.2
97.5°	114.8	314.5	320.7	317.3	299.3
100°	179.4	518.3	493.1	537.3	462.7
102.5°	258.9	590.5	705.9	633.7	640.9
105°	344.9	757.3	941.1	910.7	853.7
107.5°	439.9	846.1	1166.0	1147.3	1096.6
110°	537.3	916.6	1339.7	1383.6	1372.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	632.3	977.7	1478.9	1613.0	1624.4
115°	729.4	1039.6	1585.0	1760.8	1843.0
117.5°	828.5	1105.5	1646.8	1931.5	2014.0
120°	926.9	1181.2	1700.4	2036.5	2159.4
122.5°	1021.9	1281.4	1725.6	2125.2	2258.2
125°	1115.9	1321.8	1747.0	2140.4	2300.0
127.5°	1206.7	1418.1	1776.0	2171.9	2325.3
130°	1296.6	1492.8	1804.0	2174.6	2329.1
132.5°	1384.0	1571.2	1836.8	2169.5	2303.8
135°	1466.2	1642.0	1875.8	2169.5	2278.3
137.5°	1545.6	1707.6	1911.4	2163.2	2263.4
140°	1623.0	1772.2	1949.4	2159.4	2249.3
142.5°	1695.2	1833.0	1994.0	2169.5	2239.2
145°	1766.0	1904.9	2043.4	2186.0	2240.6
147.5°	1831.6	1931.8	2087.2	2196.1	2243.0
150°	1893.8	1992.6	2127.7	2217.5	2246.8
152.5°	1947.0	2040.6	2162.2	2243.0	2264.5
155°	2001.6	2080.7	2188.5	2265.8	2285.9
157.5°	2046.8	2117.6	2214.0	2282.1	2299.7
160°	2089.7	2151.8	2232.7	2294.9	2307.3
162.5°	2130.4	2180.9	2245.8	2298.3	2304.9
165°	2163.2	2207.8	2257.2	2297.3	2302.1
167.5°	2192.6	2233.0	2260.7	2292.4	2294.9
170°	2215.4	2240.3	2265.8	2290.0	2284.8
172.5°	2233.0	2255.8	2271.0	2282.1	2273.4
175°	2246.8	2264.5	2272.1	2272.1	2263.4
177.5°	2253.4	2265.8	2265.8	2265.8	2249.3
180°	2257.1	2257.1	2257.1	2257.1	2257.1

(END OF REPORT)