

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: NEO-RAY

Report Number: P231577

Luminaire Tested: **S124-DR-2-35-X-0048-1-U-DD-3-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231577
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P29681)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124-DR-2-35-X-0048-1-U-DD-3-W
Description: DEFINE 4 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH ASYMMETRIC LENS.
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4460.6 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Spacing Criteria (0/90/45): 1.39 / 1.24 / 1.51
Luminous Opening: Rectangular (W 3.92' x L: 0.31' x H: 0')
CIE Type: Direct

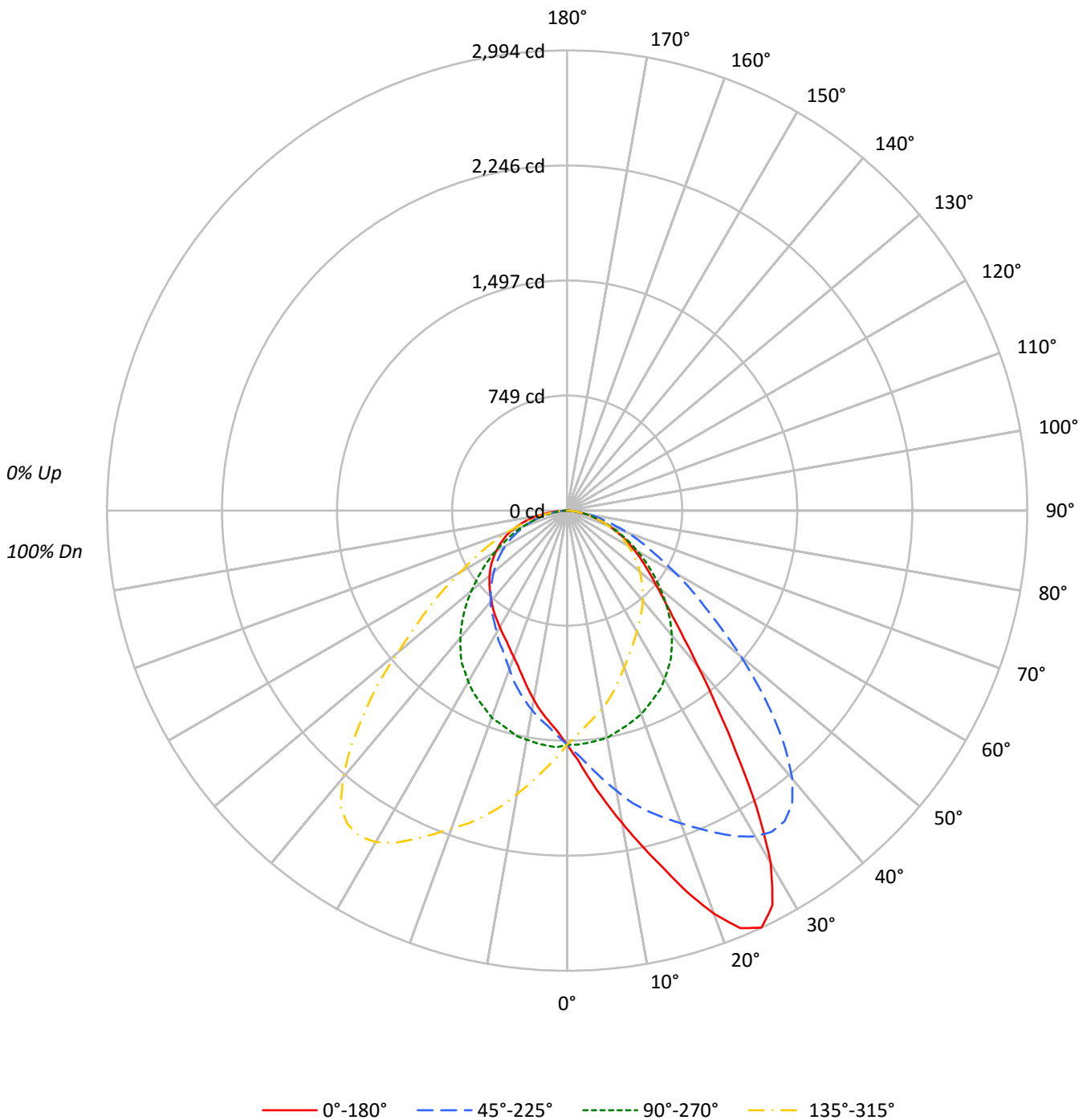
Input Watts (W): 42.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85					85			
2	100	92	86	80	98	90	84	79	87	82	78	84	79	76	81	77	74	72					72			
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61					61			
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	55	48	43	53	47	43	41					41			
7	67	54	45	39	65	53	45	39	51	44	39	50	43	38	48	43	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13650	13650	13650	13650
5°	15869	13651	12363	13803
10°	18785	13654	11372	13770
15°	22281	13500	10371	13684
20°	26592	13431	9675	13674
25°	29602	13267	9246	13463
30°	27417	13107	9061	13298
35°	20894	12850	8991	13129
40°	15498	12398	8967	12647
45°	12246	11798	9033	12049
50°	10549	11042	9185	11318
55°	9608	10250	9386	10537
60°	8914	9471	9599	9803
65°	8263	8653	9885	8922
70°	7498	7833	10173	8093
75°	6671	6820	10154	7014
80°	5630	5558	9799	5996
85°	4082	3938	9037	4955



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.4	3.3
10°-20°	458.8	10.3
20°-30°	762.5	17.1
30°-40°	887.4	19.9
40°-50°	799.1	17.9
50°-60°	642.3	14.4
60°-70°	453.0	10.2
70°-80°	244.4	5.5
80°-90°	64.7	1.4
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°	1369.7	30.7
0°-40°	2257.1	50.6
0°-60°	3698.5	82.9
0°-90°	4460.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4460.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1523	1523	1523	1523	1523	
5°	1764	1518	1374	1535	1764	178
15°	2402	1455	1118	1475	2402	695
25°	2994	1342	935	1362	2994	1335
35°	1910	1175	822	1200	1910	1206
45°	966	931	713	951	966	764
55°	615	656	601	674	615	554
65°	390	408	466	421	390	386
75°	193	197	293	203	193	205
85°	40	38	88	48	40	49
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3
2.5°	1625.3	1612.5	1589.9	1548.8	1524.7	1479.4	1460.9	1446.8	1436.8	1436.8	1465.2
5°	1764.2	1724.5	1669.2	1584.2	1517.6	1442.5	1405.7	1381.6	1374.5	1374.5	1409.9
7.5°	1911.5	1854.9	1759.9	1619.6	1509.1	1405.7	1356.1	1324.9	1315.0	1319.2	1364.6
10°	2064.6	1989.5	1850.6	1659.3	1500.6	1374.5	1307.9	1264.0	1249.8	1259.7	1317.8
12.5°	2228.9	2125.5	1947.0	1682.0	1476.5	1330.6	1256.9	1198.8	1183.2	1196.0	1266.8
15°	2401.8	2272.9	2023.5	1706.1	1455.3	1290.9	1200.2	1133.6	1118.0	1135.0	1213.0
17.5°	2604.5	2431.6	2094.3	1724.5	1432.6	1249.8	1139.3	1076.9	1061.3	1074.1	1160.5
20°	2788.7	2591.7	2165.2	1735.8	1408.5	1208.7	1085.4	1025.9	1014.6	1025.9	1096.8
22.5°	2940.3	2744.7	2238.9	1725.9	1375.9	1159.1	1034.4	984.8	973.5	979.1	1044.3
25°	2994.1	2862.3	2315.4	1704.7	1341.9	1103.8	989.1	950.8	935.2	942.3	996.2
27.5°	2893.5	2880.8	2389.1	1673.5	1310.7	1059.9	948.0	912.5	905.5	911.1	960.7
30°	2649.8	2781.6	2448.6	1636.6	1266.8	1013.2	908.3	880.0	875.7	888.5	915.4
32.5°	2297.0	2554.9	2476.9	1589.9	1221.5	963.6	871.5	847.4	847.4	850.2	877.1
35°	1910.1	2241.7	2467.0	1536.0	1174.7	918.2	836.0	817.6	821.9	816.2	841.7
37.5°	1588.5	1904.5	2404.7	1486.4	1118.0	877.1	800.6	786.4	794.9	787.9	814.8
40°	1324.9	1597.0	2278.5	1428.3	1059.9	831.8	765.2	756.7	766.6	759.5	772.3
42.5°	1119.4	1341.9	2102.8	1367.4	996.2	789.3	728.3	725.5	739.7	728.3	735.4
45°	966.4	1136.4	1900.2	1305.1	931.0	746.8	691.5	695.7	712.8	698.6	700.0
47.5°	848.8	977.7	1683.4	1234.2	860.1	704.3	654.7	664.6	685.8	667.4	661.7
50°	756.7	853.0	1476.5	1157.7	792.1	661.7	616.4	630.6	658.9	636.2	623.5
52.5°	681.6	752.4	1269.6	1076.9	724.1	616.4	578.1	599.4	630.6	606.5	585.2
55°	615.0	668.8	1095.3	993.3	656.1	571.1	538.5	566.8	600.8	573.9	547.0
57.5°	554.0	596.6	952.2	906.9	592.3	524.3	500.2	530.0	568.2	539.9	507.3
60°	497.4	528.5	814.8	810.5	528.5	477.5	459.1	493.1	535.6	503.0	466.2
62.5°	442.1	467.6	688.7	714.2	466.2	429.4	418.0	454.9	500.2	464.8	423.7
65°	389.7	409.5	585.2	622.1	408.1	379.8	374.1	415.2	466.2	423.7	379.8
67.5°	335.8	351.4	500.2	532.8	347.2	328.7	328.7	374.1	429.4	382.6	334.4
70°	286.2	294.7	413.8	443.5	299.0	282.0	282.0	328.7	388.3	337.2	290.5
72.5°	238.1	245.1	333.0	358.5	246.6	233.8	239.5	286.2	340.1	294.7	246.6
75°	192.7	197.0	257.9	282.0	197.0	188.5	195.5	243.7	293.3	250.8	204.0
77.5°	150.2	151.6	198.4	212.6	150.2	146.0	153.0	202.6	242.3	205.5	161.5
80°	109.1	110.5	141.7	151.6	107.7	106.3	114.8	158.7	189.9	161.5	121.9
82.5°	70.9	73.7	94.9	97.8	69.4	70.9	79.4	114.8	137.4	117.6	86.4
85°	39.7	41.1	53.8	53.8	38.3	41.1	49.6	70.9	87.9	76.5	55.3
87.5°	15.6	15.6	21.3	21.3	15.6	18.4	22.7	38.3	43.9	39.7	28.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1523.3	1523.3	1523.3	1523.3	1523.3	1523.3
2.5°	1483.6	1541.7	1564.4	1609.7	1625.3	1625.3
5°	1448.2	1534.6	1601.2	1691.9	1741.5	1764.2
7.5°	1411.3	1526.1	1639.5	1781.2	1876.1	1911.5
10°	1374.5	1513.4	1676.3	1871.9	2016.4	2064.6
12.5°	1347.6	1503.4	1720.2	1969.6	2158.1	2228.9
15°	1298.0	1475.1	1734.4	2053.2	2302.6	2401.8
17.5°	1258.3	1452.4	1757.1	2132.6	2467.0	2604.5
20°	1213.0	1434.0	1765.6	2199.2	2638.5	2788.7
22.5°	1171.9	1395.7	1768.4	2280.0	2794.3	2940.3
25°	1115.2	1361.7	1745.7	2359.3	2902.0	2994.1
27.5°	1064.2	1329.1	1716.0	2437.2	2914.8	2893.5
30°	1023.1	1285.2	1684.8	2489.7	2804.2	2649.8
32.5°	969.2	1239.9	1628.1	2513.8	2549.2	2297.0
35°	923.9	1200.2	1578.5	2491.1	2221.9	1910.1
37.5°	887.0	1139.3	1528.9	2423.1	1881.8	1588.5
40°	837.4	1081.2	1469.4	2265.8	1578.5	1324.9
42.5°	794.9	1017.4	1407.1	2080.2	1324.9	1119.4
45°	752.4	950.8	1336.2	1869.0	1125.1	966.4
47.5°	708.5	884.2	1264.0	1667.8	969.2	848.8
50°	666.0	811.9	1193.1	1436.8	847.4	756.7
52.5°	623.5	742.5	1109.5	1248.4	748.2	681.6
55°	579.6	674.5	1014.6	1093.9	666.0	615.0
57.5°	532.8	612.1	922.5	943.7	592.3	554.0
60°	487.4	547.0	836.0	800.6	525.7	497.4
62.5°	439.3	478.9	736.8	695.7	464.8	442.1
65°	391.1	420.8	643.3	592.3	406.7	389.7
67.5°	340.1	367.0	552.6	498.8	348.6	335.8
70°	289.1	308.9	461.9	415.2	296.2	286.2
72.5°	243.7	250.8	378.3	334.4	246.6	238.1
75°	197.0	202.6	299.0	266.4	198.4	192.7
77.5°	157.3	158.7	229.6	204.0	154.5	150.2
80°	113.4	116.2	164.4	148.8	113.4	109.1
82.5°	79.4	77.9	110.5	100.6	79.4	70.9
85°	48.2	48.2	65.2	59.5	43.9	39.7
87.5°	24.1	24.1	29.8	26.9	18.4	15.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)