

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: P243413

Luminaire Tested: **S123RDR-H1165D935-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243413
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-64)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-H1165D935-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3560.2 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

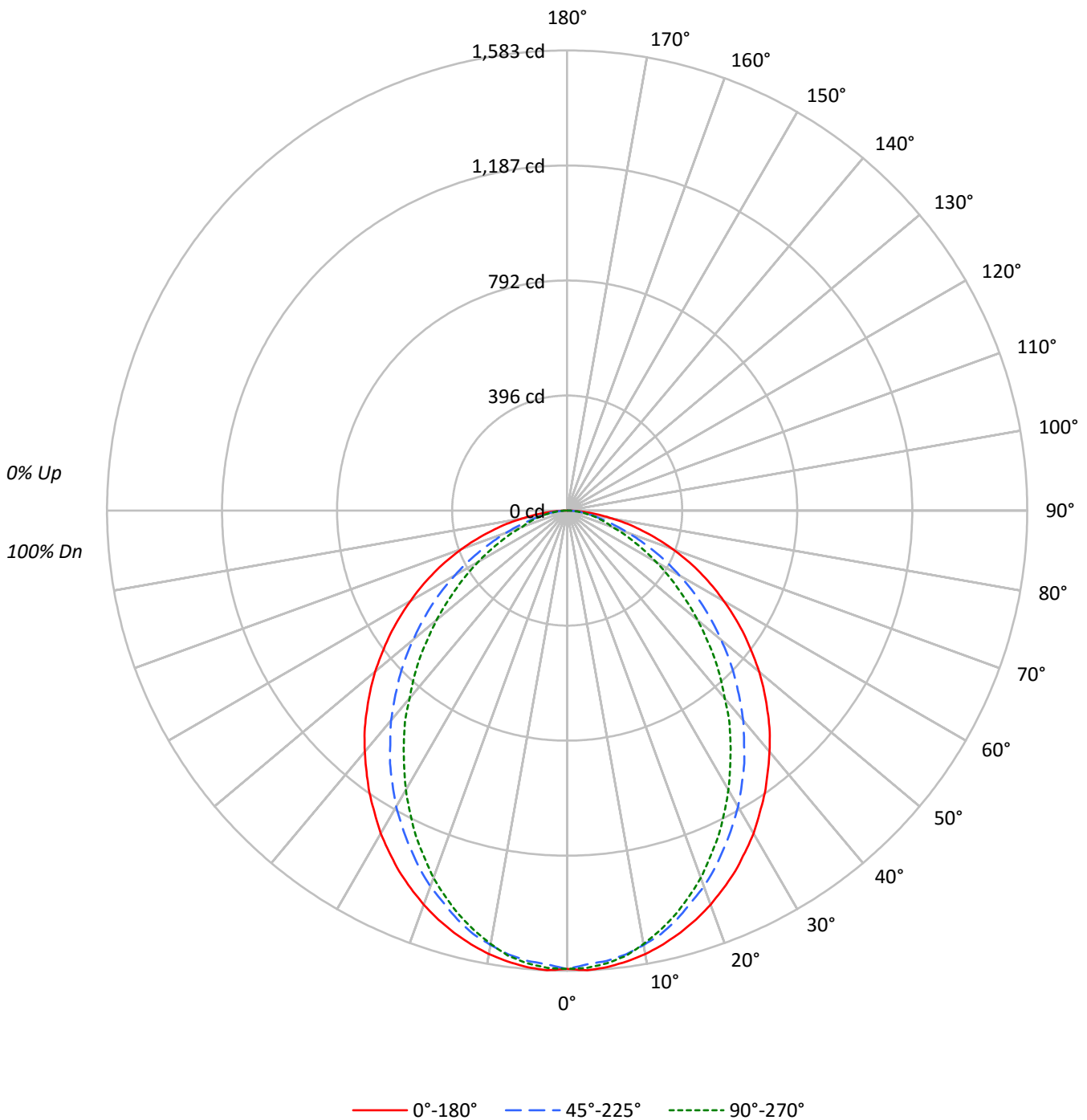
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19113	19113	19113
5°	19186	18921	19024
10°	19065	18678	18633
15°	18861	18282	18055
20°	18606	17747	17340
25°	18303	17104	16489
30°	17952	16460	15528
35°	17545	15716	14498
40°	17132	14909	13356
45°	16712	14014	12291
50°	16261	13040	11054
55°	15714	12029	9801
60°	15091	10834	8543
65°	14484	9482	7294
70°	13648	7942	5837
75°	12593	6294	5559
80°	10987	5577	5075
85°	9262	4882	4715



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.3	4.2
10°-20°	413.0	11.6
20°-30°	594.5	16.7
30°-40°	669.7	18.8
40°-50°	639.8	18.0
50°-60°	523.1	14.7
60°-70°	351.3	9.9
70°-80°	175.2	4.9
80°-90°	45.3	1.3
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°	1155.8	32.5
0°-40°	1825.5	51.3
0°-60°	2988.4	83.9
0°-90°	3560.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3560.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1577	1577	1577	1577	1577	
5°	1577	1571	1555	1567	1564	150
15°	1503	1492	1457	1448	1439	424
25°	1368	1338	1279	1251	1233	630
35°	1186	1140	1062	1003	980	741
45°	975	917	818	746	717	752
55°	744	677	569	490	464	664
65°	505	435	331	270	254	499
75°	269	205	134	121	119	285
85°	67	39	35	33	34	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8
2.5°	1582.9	1579.3	1574.4	1575.6	1576.8	1578.1	1578.1	1576.8	1573.2	1568.4	1562.3
5°	1576.8	1573.2	1568.4	1568.4	1570.8	1570.8	1570.8	1569.6	1565.9	1561.1	1555.0
7.5°	1564.7	1562.3	1556.3	1557.5	1558.7	1558.7	1558.7	1557.5	1552.6	1546.6	1540.5
10°	1549.0	1545.4	1540.5	1540.5	1541.7	1541.7	1541.7	1539.3	1533.2	1526.0	1517.5
12.5°	1528.4	1524.8	1519.9	1519.9	1519.9	1519.9	1519.9	1516.3	1506.6	1499.3	1492.1
15°	1503.0	1499.3	1494.5	1494.5	1493.3	1492.1	1489.6	1483.6	1475.1	1466.6	1456.9
17.5°	1475.1	1470.3	1464.2	1463.0	1461.8	1460.6	1456.9	1453.3	1441.2	1429.1	1414.6
20°	1442.4	1437.6	1431.5	1430.3	1426.7	1423.0	1420.6	1413.3	1400.0	1385.5	1375.8
22.5°	1406.1	1401.2	1395.2	1392.8	1385.5	1383.1	1379.4	1368.5	1354.0	1340.7	1329.8
25°	1368.5	1362.5	1355.2	1351.6	1343.1	1338.3	1337.0	1321.3	1306.8	1292.2	1278.9
27.5°	1324.9	1320.1	1314.0	1306.8	1298.3	1292.2	1289.8	1275.3	1257.1	1240.2	1228.1
30°	1282.6	1275.3	1269.2	1260.8	1248.6	1242.6	1237.7	1223.2	1207.5	1186.9	1176.0
32.5°	1232.9	1228.1	1220.8	1212.3	1200.2	1195.4	1188.1	1169.9	1149.3	1134.8	1117.8
35°	1185.7	1180.8	1169.9	1161.4	1144.5	1139.6	1132.4	1116.6	1093.6	1076.7	1062.1
37.5°	1133.6	1127.5	1119.1	1106.9	1092.4	1086.4	1076.7	1060.9	1034.3	1017.3	999.2
40°	1082.7	1074.2	1064.6	1051.2	1036.7	1030.6	1022.2	999.2	977.4	958.0	942.2
42.5°	1031.9	1022.2	1010.1	997.9	982.2	973.7	964.0	942.2	918.0	899.8	878.0
45°	974.9	967.7	955.6	941.0	922.9	916.8	905.9	882.9	858.7	839.3	817.5
47.5°	919.2	910.7	898.6	884.1	865.9	857.5	846.6	823.5	799.3	775.1	755.7
50°	862.3	853.8	839.3	824.8	807.8	796.9	787.2	764.2	737.6	715.8	691.5
52.5°	801.7	794.5	782.4	767.8	746.0	737.6	727.9	702.4	677.0	651.6	629.8
55°	743.6	738.8	724.2	709.7	686.7	677.0	667.3	640.7	615.2	589.8	569.2
57.5°	683.1	679.4	664.9	647.9	627.3	617.7	605.5	578.9	554.7	529.2	507.4
60°	622.5	618.9	604.3	587.4	568.0	555.9	542.6	522.0	494.1	471.1	446.9
62.5°	564.4	559.5	547.4	529.2	507.4	495.3	483.2	459.0	433.6	409.4	387.6
65°	505.0	499.0	484.4	466.3	445.7	434.8	422.7	399.7	374.2	351.2	330.6
67.5°	445.7	439.6	423.9	409.4	385.1	374.2	363.3	340.3	316.1	293.1	273.7
70°	385.1	379.1	367.0	347.6	327.0	316.1	305.2	281.0	259.2	242.2	224.1
72.5°	325.8	320.9	308.8	290.7	271.3	260.4	248.3	227.7	208.3	190.1	176.8
75°	268.9	261.6	250.7	233.7	214.4	204.7	196.2	175.6	157.4	145.3	134.4
77.5°	214.4	205.9	193.8	180.5	162.3	152.6	144.1	127.2	115.1	106.6	104.2
80°	157.4	156.2	144.1	129.6	113.8	106.6	98.1	87.2	83.6	82.4	79.9
82.5°	110.2	105.4	95.7	82.4	70.2	65.4	63.0	60.6	58.1	58.1	55.7
85°	66.6	61.8	53.3	42.4	40.0	38.8	37.5	37.5	36.3	35.1	35.1
87.5°	29.1	24.2	18.2	17.0	15.7	15.7	17.0	17.0	17.0	15.7	15.7
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8	1576.8
2.5°	1564.7	1570.8	1574.4	1575.6	1575.6	1575.6	1576.8	1576.8	1575.6	1574.4
5°	1556.3	1562.3	1564.7	1567.2	1567.2	1567.2	1567.2	1567.2	1565.9	1563.5
7.5°	1542.9	1546.6	1550.2	1549.0	1549.0	1547.8	1546.6	1547.8	1545.4	1545.4
10°	1518.7	1522.3	1524.8	1521.1	1521.1	1522.3	1522.3	1521.1	1517.5	1513.9
12.5°	1490.9	1494.5	1490.9	1492.1	1489.6	1487.2	1486.0	1484.8	1481.2	1478.7
15°	1454.5	1454.5	1452.1	1452.1	1448.5	1443.6	1442.4	1443.6	1438.8	1438.8
17.5°	1414.6	1412.1	1408.5	1406.1	1404.9	1404.9	1400.0	1400.0	1394.0	1392.8
20°	1371.0	1368.5	1364.9	1358.8	1356.4	1357.6	1352.8	1349.2	1345.5	1344.3
22.5°	1324.9	1318.9	1315.3	1309.2	1304.4	1304.4	1300.7	1294.7	1291.0	1287.4
25°	1272.9	1266.8	1259.5	1254.7	1251.1	1245.0	1242.6	1237.7	1234.1	1232.9
27.5°	1219.6	1209.9	1200.2	1195.4	1192.9	1185.7	1182.0	1179.6	1172.3	1171.1
30°	1162.7	1155.4	1143.3	1134.8	1128.7	1130.0	1121.5	1116.6	1113.0	1109.4
32.5°	1108.2	1096.0	1083.9	1073.0	1065.8	1064.6	1056.1	1051.2	1047.6	1044.0
35°	1046.4	1034.3	1019.7	1010.1	1002.8	999.2	990.7	988.3	982.2	979.8
37.5°	984.6	971.3	956.8	944.7	939.8	931.3	927.7	921.6	916.8	916.8
40°	924.1	908.3	893.8	879.3	873.2	868.4	858.7	853.8	847.8	844.1
42.5°	861.1	842.9	829.6	816.3	807.8	804.2	793.3	787.2	781.2	779.9
45°	798.1	779.9	763.0	749.7	746.0	738.8	727.9	719.4	718.2	717.0
47.5°	733.9	715.8	700.0	685.5	680.6	672.2	664.9	658.8	651.6	647.9
50°	672.2	654.0	637.0	621.3	615.2	608.0	600.7	592.2	589.8	586.2
52.5°	610.4	589.8	571.6	557.1	552.3	546.2	537.7	530.5	526.8	524.4
55°	547.4	526.8	511.1	496.5	490.5	486.9	477.2	471.1	466.3	463.8
57.5°	485.6	465.1	450.5	439.6	431.2	427.5	417.8	411.8	409.4	408.1
60°	427.5	408.1	392.4	381.5	374.2	370.6	363.3	357.3	353.6	352.4
62.5°	369.4	352.4	337.9	327.0	322.2	317.3	311.3	306.4	302.8	302.8
65°	313.7	296.7	283.4	274.9	270.1	267.7	260.4	258.0	254.3	254.3
67.5°	259.2	247.1	237.4	226.5	222.8	222.8	215.6	213.2	210.7	210.7
70°	211.9	201.0	190.1	184.1	180.5	179.2	173.2	169.6	167.1	164.7
72.5°	165.9	156.2	146.5	145.3	145.3	144.1	144.1	141.7	141.7	142.9
75°	127.2	124.7	122.3	122.3	121.1	119.9	119.9	118.7	118.7	118.7
77.5°	101.7	100.5	99.3	98.1	98.1	96.9	95.7	95.7	95.7	95.7
80°	77.5	76.3	76.3	75.1	73.9	75.1	73.9	73.9	72.7	72.7
82.5°	54.5	54.5	54.5	53.3	53.3	53.3	53.3	52.1	52.1	53.3
85°	33.9	33.9	33.9	33.9	32.7	33.9	32.7	32.7	32.7	33.9
87.5°	14.5	15.7	14.5	15.7	15.7	14.5	14.5	14.5	14.5	14.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)