

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P646694

Luminaire Tested: S123RDR-S775D830-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646694
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2301-905-2)
Test Lab: INNOVATION CENTER
Issue Date: 3/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDR-S775D830-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC STANDARD LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

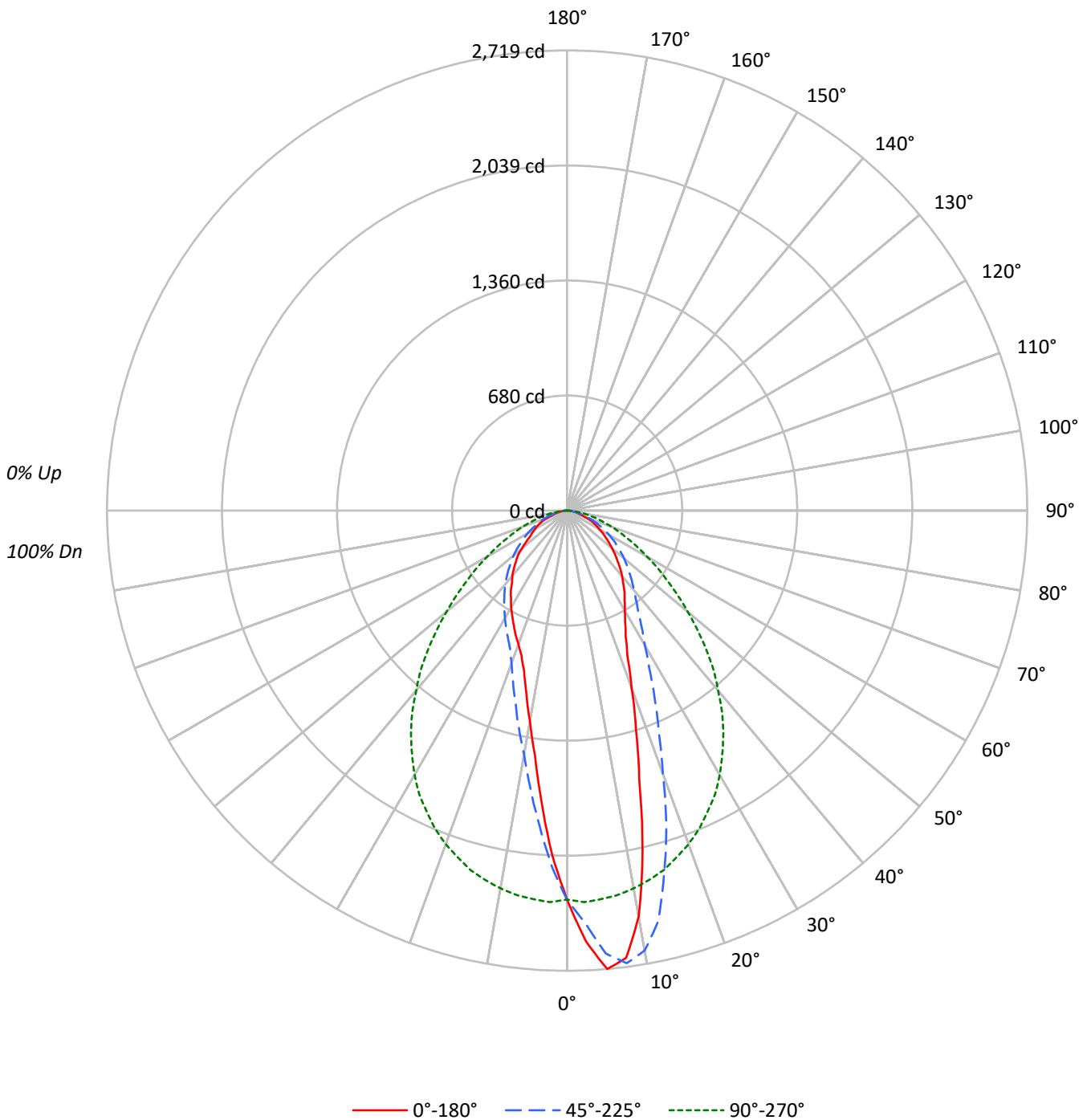
Lumens per Lamp: N/A
Luminaire Lumens: 3045.6 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

Input Watts (W): 26
Input Voltage (V): 120
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: 24 FT



TEST NUMBER: P646694
CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-G-W

Luminous Intensity Polar Plot





TEST NUMBER: P646694

CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-G-W

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	111	107	103	100	108	104	101	98	100	97	95	96	94	92	93	91	89					87				
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78					76				
3	94	85	78	73	92	84	77	72	81	75	71	78	74	70	76	72	69					67				
4	88	77	69	64	85	76	69	63	73	67	62	71	66	62	69	65	61					59				
5	82	70	62	56	80	69	62	56	67	61	56	65	60	55	63	58	54					53				
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	59	53	49					47				
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45					43				
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41					39				
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38					36				
10	60	47	40	36	58	47	40	35	46	40	35	45	39	35	44	39	35					33				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	27700	27700	27700	27700	27700
5°	32889	31773	27873	22607	20920
10°	29798	32290	27734	17897	15487
15°	20516	27654	27442	14697	12251
20°	14273	21211	26891	12316	10768
25°	10876	16278	26090	11003	9925
30°	9468	12799	25087	10229	9192
35°	8693	10773	23666	9539	8527
40°	7932	9666	21808	8955	7916
45°	7164	8849	19804	8319	7309
50°	6503	8216	17439	7738	6555
55°	5880	7544	15167	7069	5624
60°	5270	6858	13175	6473	5316
65°	4864	6101	11342	5751	5026
70°	3953	5214	9896	5214	4083
75°	3468	4213	8380	4344	3599
80°	3136	3532	6869	3664	3400
85°	2862	3000	5212	3263	3124

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°
 Vertical Angle: 45°
 Luminance: 20895 cd/sqm



TEST NUMBER: P646694

CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-G-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.5	6.9
10°-20°	484.8	15.9
20°-30°	556.1	18.3
30°-40°	547.8	18.0
40°-50°	482.9	15.9
50°-60°	371.6	12.2
60°-70°	244.4	8.0
70°-80°	118.7	3.9
80°-90°	29.9	1.0
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°	1250.4	41.1
0°-40°	1798.2	59.0
0°-60°	2652.7	87.1
0°-90°	3045.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3045.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2299	2299	2299	2299	2299	
5°	2719	2627	2304	1869	1730	248
15°	1645	2217	2200	1178	982	464
25°	818	1224	1962	828	746	386
35°	591	732	1609	648	580	368
45°	420	519	1162	488	429	326
55°	280	359	722	336	268	251
65°	171	214	398	202	176	167
75°	74	90	180	93	77	80
85°	21	22	38	24	23	23
90°	0	0	0	0	0	



TEST NUMBER: P646694

CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9
2.5°	2547.7	2531.7	2527.0	2521.3	2511.9	2477.9	2439.3	2443.1	2438.4	2409.1	2393.1
5°	2719.2	2721.1	2716.4	2712.6	2696.6	2655.1	2626.9	2609.9	2574.1	2519.4	2502.5
7.5°	2666.5	2696.6	2702.3	2708.9	2717.4	2707.9	2697.6	2691.0	2661.7	2602.4	2575.0
10°	2435.5	2433.6	2467.6	2494.9	2568.4	2620.3	2639.1	2666.5	2691.0	2649.5	2619.3
12.5°	2058.5	2061.3	2172.6	2172.6	2267.8	2399.7	2484.5	2542.0	2647.6	2650.4	2632.5
15°	1644.7	1690.9	1789.9	1810.6	1933.2	2110.4	2216.9	2335.6	2540.2	2604.2	2600.5
17.5°	1350.7	1370.5	1465.7	1493.0	1601.4	1802.1	1949.2	2092.4	2379.0	2513.8	2538.3
20°	1113.1	1131.1	1199.9	1220.6	1329.9	1521.3	1654.2	1808.7	2183.9	2390.3	2433.6
22.5°	929.3	964.2	1010.4	1042.5	1104.7	1299.8	1413.8	1561.8	1957.7	2251.7	2302.6
25°	818.1	834.2	873.7	888.8	964.2	1093.3	1224.4	1354.4	1756.9	2078.3	2167.8
27.5°	742.7	747.4	776.7	789.9	835.1	954.8	1049.1	1169.7	1552.4	1900.2	2004.8
30°	680.5	689.0	711.6	714.4	754.0	838.9	919.9	1031.1	1373.3	1727.7	1835.1
32.5°	632.4	637.2	656.0	661.7	687.1	754.0	820.0	901.1	1207.4	1547.7	1671.1
35°	591.0	591.9	606.1	613.6	636.2	691.8	732.4	800.2	1074.5	1398.7	1507.1
37.5°	543.8	550.4	560.8	567.4	587.2	632.4	669.2	722.0	952.0	1257.4	1358.2
40°	504.3	509.9	522.2	525.0	542.9	584.4	614.5	661.7	846.4	1121.6	1224.4
42.5°	464.7	468.4	480.7	486.4	506.1	539.1	566.5	603.2	762.5	1001.0	1101.8
45°	420.4	429.8	443.0	445.8	464.7	498.6	519.3	553.3	687.1	896.4	985.9
47.5°	383.6	388.3	399.6	404.4	426.0	456.2	477.9	507.1	622.1	801.2	888.8
50°	346.9	348.7	359.1	365.7	382.7	417.5	438.3	464.7	562.7	723.9	785.1
52.5°	312.0	316.7	327.1	331.8	343.1	378.9	397.8	425.1	506.1	644.7	706.0
55°	279.9	282.8	290.3	296.0	309.2	340.3	359.1	382.7	457.1	572.1	625.8
57.5°	249.8	253.5	259.2	263.9	276.2	303.5	322.3	345.9	410.9	506.1	547.6
60°	218.7	223.4	230.0	231.9	243.2	267.7	284.6	305.4	363.8	444.9	481.6
62.5°	196.0	197.0	202.6	205.5	212.1	231.9	249.8	269.6	321.4	385.5	415.7
65°	170.6	173.4	176.3	178.1	183.8	200.8	214.0	229.0	279.9	335.5	356.3
67.5°	144.2	147.0	151.7	153.6	158.3	169.7	181.0	196.0	238.5	285.6	304.4
70°	112.2	112.2	119.7	123.5	131.0	139.5	148.0	161.2	197.9	238.5	252.6
72.5°	91.4	92.4	93.3	93.3	99.9	114.0	118.8	127.2	156.5	195.1	207.4
75°	74.5	75.4	76.3	77.3	78.2	82.9	90.5	98.0	119.7	148.0	159.3
77.5°	59.4	60.3	61.3	61.3	63.2	65.0	66.9	70.7	85.8	106.5	115.9
80°	45.2	46.2	47.1	47.1	48.1	50.0	50.9	52.8	57.5	71.6	76.3
82.5°	33.0	33.0	33.0	33.9	34.9	34.9	36.8	36.8	39.6	43.4	46.2
85°	20.7	20.7	21.7	21.7	21.7	22.6	21.7	22.6	23.6	24.5	26.4
87.5°	9.4	8.5	9.4	9.4	9.4	10.4	10.4	10.4	10.4	11.3	11.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P646694

CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9	2298.9
2.5°	2348.8	2315.8	2260.2	2225.3	2212.1	2171.6	2133.0	2100.9	2084.9	2083.0	2053.8
5°	2395.0	2304.5	2189.5	2093.4	2070.8	2000.1	1908.6	1869.1	1817.2	1796.5	1772.0
7.5°	2432.7	2291.3	2121.7	1976.5	1934.1	1827.6	1710.7	1658.9	1619.3	1557.1	1520.3
10°	2459.1	2266.8	2038.7	1851.2	1790.8	1666.4	1525.0	1462.8	1426.1	1354.4	1325.2
12.5°	2469.5	2235.7	1955.8	1721.1	1668.3	1520.3	1381.8	1317.7	1263.0	1198.0	1169.7
15°	2465.7	2199.9	1870.9	1601.4	1535.4	1385.5	1238.5	1178.2	1127.3	1062.2	1025.5
17.5°	2440.2	2149.0	1778.6	1485.4	1422.3	1267.7	1118.8	1063.2	1017.9	954.8	926.5
20°	2397.8	2097.2	1697.5	1379.9	1308.2	1160.3	1019.8	960.5	920.9	886.9	866.2
22.5°	2339.4	2035.9	1598.6	1275.3	1213.1	1064.1	929.3	881.3	857.7	830.4	815.3
25°	2250.8	1962.4	1509.0	1187.6	1125.4	977.4	859.6	827.6	804.0	786.1	770.1
27.5°	2155.6	1891.7	1419.5	1099.0	1040.6	899.2	804.9	780.4	759.7	737.1	722.9
30°	2045.3	1803.1	1334.6	1020.8	964.2	836.0	757.8	735.2	718.2	693.7	679.6
32.5°	1915.2	1706.0	1255.5	945.4	892.6	781.4	714.4	689.9	675.8	652.2	638.1
35°	1780.5	1608.9	1168.8	875.6	827.6	733.3	672.0	648.5	633.4	609.8	595.7
37.5°	1648.5	1505.2	1091.5	814.4	771.0	685.2	627.7	607.9	593.8	569.3	552.3
40°	1509.0	1386.5	1016.1	756.9	716.3	642.8	587.2	569.3	550.4	528.8	511.8
42.5°	1362.9	1281.9	946.3	706.0	668.3	601.3	546.7	527.8	511.8	486.4	478.8
45°	1226.2	1162.2	872.8	652.2	622.1	559.9	507.1	488.2	470.3	448.7	441.1
47.5°	1104.7	1045.3	805.9	605.1	575.0	519.3	467.5	447.7	434.5	417.5	406.2
50°	979.3	930.3	732.4	558.9	530.7	476.0	426.0	412.8	397.8	377.0	368.5
52.5°	862.4	824.7	672.0	514.6	488.2	439.2	388.3	375.1	361.0	343.1	330.8
55°	759.7	722.0	603.2	464.7	444.9	398.7	353.5	336.5	325.2	304.4	289.4
57.5°	654.1	636.2	537.2	423.2	404.4	358.2	317.6	304.4	290.3	267.7	252.6
60°	567.4	546.7	476.0	378.0	360.1	321.4	281.8	268.6	255.4	233.8	227.2
62.5°	485.4	470.3	416.6	335.5	320.5	282.8	247.9	235.6	222.4	208.3	203.6
65°	410.9	397.8	357.2	292.2	279.9	246.9	214.9	201.7	193.2	186.6	181.9
67.5°	341.2	333.7	302.6	251.7	242.2	213.0	184.7	174.4	169.7	162.1	158.3
70°	278.1	280.9	252.6	214.9	204.5	181.0	156.5	148.0	142.3	135.7	128.2
72.5°	227.2	226.2	209.2	175.3	167.8	148.9	130.1	124.4	117.8	104.6	96.1
75°	176.3	180.0	164.0	145.2	137.6	118.8	100.9	93.3	86.7	82.0	79.2
77.5°	134.8	136.7	129.1	111.2	104.6	88.6	74.5	70.7	67.9	65.0	64.1
80°	96.1	99.0	91.4	80.1	74.5	61.3	53.7	52.8	51.8	50.0	49.0
82.5°	62.2	66.0	62.2	50.0	47.1	40.5	38.6	38.6	37.7	36.8	35.8
85°	33.9	37.7	35.8	29.2	27.3	25.4	24.5	23.6	23.6	23.6	23.6
87.5°	13.2	17.9	15.1	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P646694

CATALOG NUMBER: S123RDR-S775D830-X4F0-XX-UDD-G-W

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2298.9	2298.9	2298.9
2.5°	2047.2	2037.8	2034.0
5°	1765.4	1736.2	1729.6
7.5°	1509.0	1496.8	1456.2
10°	1320.5	1282.8	1265.8
12.5°	1150.8	1116.0	1110.3
15°	1015.1	990.6	982.1
17.5°	925.6	908.6	898.2
20°	859.6	847.3	839.8
22.5°	809.6	800.2	794.6
25°	765.3	751.2	746.5
27.5°	720.1	707.8	703.1
30°	677.7	667.3	660.7
32.5°	633.4	621.1	617.4
35°	591.0	583.4	579.7
37.5°	549.5	540.1	534.4
40°	510.9	506.1	503.3
42.5°	476.0	467.5	466.6
45°	439.2	430.7	428.9
47.5°	404.4	396.8	395.9
50°	367.6	357.2	349.7
52.5°	323.3	313.9	307.3
55°	283.7	273.3	267.7
57.5°	250.7	246.0	243.2
60°	225.3	222.4	220.6
62.5°	202.6	199.8	199.8
65°	181.9	179.1	176.3
67.5°	156.5	150.8	149.9
70°	125.4	116.9	115.9
72.5°	95.2	94.3	92.4
75°	79.2	77.3	77.3
77.5°	64.1	62.2	62.2
80°	49.0	48.1	49.0
82.5°	35.8	35.8	34.9
85°	23.6	22.6	22.6
87.5°	11.3	11.3	11.3
90°	0.0	0.0	0.0

(END OF REPORT)