

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: P646700

Luminaire Tested: S123RDR-S775D935-X4F0-XX-UDD-G-W

Issue Date: 3/20/2023

Test Information

Test Method: LM-79-2019
Report Number: P646700
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-S775D935-X4F0-XX-UDD-G-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH WALL GRAZE FLUSH OPTIC
STANDARD LIGHT ENGINE
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

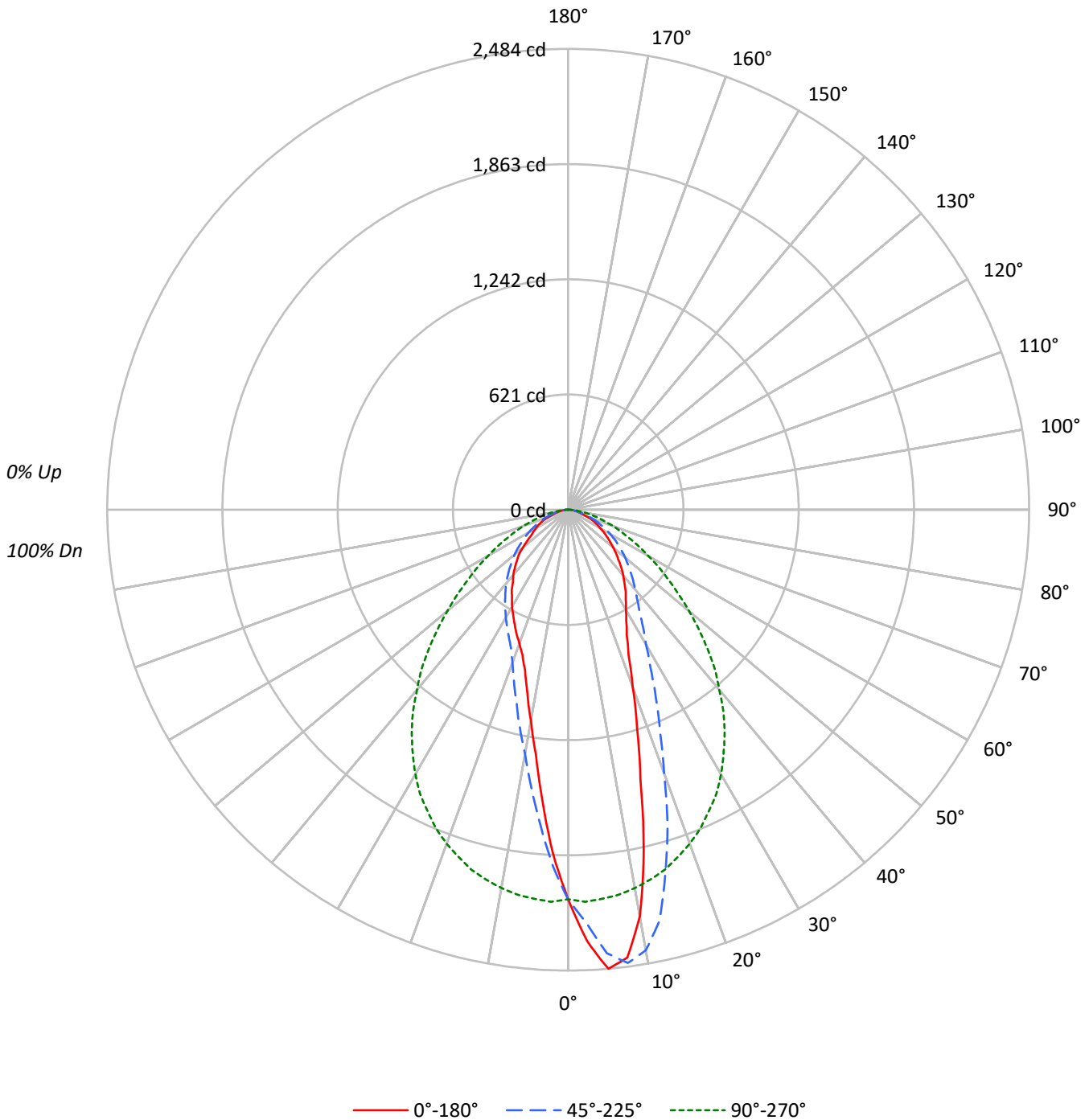
Lumens per Lamp: N/A
Luminaire Lumens: 2782.1 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 0.55 / 1.17 / 0.79
Luminous Opening: Rectangular (W 4' x L: 0.22' x H: 0')
CIE Type: Direct

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



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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	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°	25303	25303	25303	25303	25303
5°	30044	29024	25462	20651	19109
10°	27221	29496	25335	16350	14147
15°	18741	25262	25068	13425	11192
20°	13038	19376	24564	11250	9836
25°	9935	14869	23832	10051	9066
30°	8648	11691	22916	9344	8398
35°	7940	9841	21618	8714	7789
40°	7245	8830	19921	8179	7232
45°	6543	8084	18090	7600	6676
50°	5938	7506	15930	7069	5987
55°	5372	6890	13854	6458	5136
60°	4815	6266	12035	5914	4856
65°	4442	5571	10358	5255	4590
70°	3611	4763	9040	4763	3731
75°	3166	3850	7658	3966	3287
80°	2866	3227	6273	3345	3109
85°	2613	2737	4756	2972	2862

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 80°

Vertical Angle: 45°

Luminance: 19088 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.4	6.9
10°-20°	442.8	15.9
20°-30°	508.0	18.3
30°-40°	500.4	18.0
40°-50°	441.1	15.9
50°-60°	339.5	12.2
60°-70°	223.2	8.0
70°-80°	108.4	3.9
80°-90°	27.3	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°	1142.2	41.1
0°-40°	1642.7	59.0
0°-60°	2423.2	87.1
0°-90°	2782.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2782.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2100	2100	2100	2100	2100	
5°	2484	2400	2105	1707	1580	227
15°	1502	2025	2010	1076	897	424
25°	747	1118	1793	756	682	353
35°	540	669	1470	592	530	337
45°	384	474	1062	446	392	298
55°	256	328	660	307	244	229
65°	156	195	363	184	161	153
75°	68	83	164	85	71	73
85°	19	20	34	22	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0
2.5°	2327.3	2312.6	2308.3	2303.2	2294.6	2263.6	2228.3	2231.7	2227.4	2200.7	2186.1
5°	2484.0	2485.7	2481.4	2478.0	2463.3	2425.4	2399.6	2384.1	2351.4	2301.4	2286.0
7.5°	2435.8	2463.3	2468.5	2474.5	2482.3	2473.6	2464.2	2458.2	2431.5	2377.2	2352.2
10°	2224.8	2223.1	2254.1	2279.1	2346.2	2393.6	2410.8	2435.8	2458.2	2420.3	2392.7
12.5°	1880.4	1883.0	1984.6	1984.6	2071.6	2192.1	2269.6	2322.1	2418.5	2421.1	2404.8
15°	1502.4	1544.6	1635.0	1654.0	1765.9	1927.8	2025.1	2133.6	2320.4	2378.9	2375.5
17.5°	1233.8	1251.9	1338.9	1363.8	1462.8	1646.2	1780.5	1911.4	2173.2	2296.3	2318.7
20°	1016.8	1033.2	1096.1	1115.0	1214.9	1389.7	1511.1	1652.3	1994.9	2183.5	2223.1
22.5°	848.9	880.8	923.0	952.3	1009.1	1187.3	1291.5	1426.7	1788.3	2056.9	2103.4
25°	747.3	762.0	798.1	811.9	880.8	998.8	1118.4	1237.3	1604.9	1898.5	1980.3
27.5°	678.5	682.8	709.5	721.5	762.8	872.2	958.3	1068.5	1418.1	1735.8	1831.3
30°	621.6	629.4	650.1	652.6	688.8	766.3	840.3	941.9	1254.5	1578.2	1676.4
32.5°	577.7	582.0	599.3	604.4	627.7	688.8	749.1	823.1	1102.9	1413.8	1526.6
35°	539.8	540.7	553.6	560.5	581.2	632.0	669.0	731.0	981.5	1277.7	1376.7
37.5°	496.8	502.8	512.3	518.3	536.4	577.7	611.3	659.5	869.6	1148.6	1240.7
40°	460.6	465.8	477.0	479.6	495.9	533.8	561.4	604.4	773.2	1024.6	1118.4
42.5°	424.5	427.9	439.1	444.3	462.4	492.5	517.5	551.0	696.5	914.4	1006.5
45°	384.0	392.6	404.7	407.3	424.5	455.5	474.4	505.4	627.7	818.8	900.6
47.5°	350.4	354.7	365.1	369.4	389.2	416.7	436.5	463.2	568.3	731.8	811.9
50°	316.8	318.6	328.0	334.1	349.6	381.4	400.4	424.5	514.0	661.2	717.2
52.5°	285.0	289.3	298.8	303.1	313.4	346.1	363.3	388.3	462.4	588.9	644.9
55°	255.7	258.3	265.2	270.4	282.4	310.8	328.0	349.6	417.6	522.6	571.7
57.5°	228.2	231.6	236.8	241.1	252.3	277.2	294.5	316.0	375.4	462.4	500.2
60°	199.8	204.1	210.1	211.8	222.1	244.5	260.0	279.0	332.3	406.4	440.0
62.5°	179.1	179.9	185.1	187.7	193.7	211.8	228.2	246.2	293.6	352.1	379.7
65°	155.8	158.4	161.0	162.7	167.9	183.4	195.4	209.2	255.7	306.5	325.5
67.5°	131.7	134.3	138.6	140.3	144.6	155.0	165.3	179.1	217.8	260.9	278.1
70°	102.5	102.5	109.3	112.8	119.7	127.4	135.2	147.2	180.8	217.8	230.7
72.5°	83.5	84.4	85.2	85.2	91.3	104.2	108.5	116.2	142.9	178.2	189.4
75°	68.0	68.9	69.7	70.6	71.5	75.8	82.7	89.5	109.3	135.2	145.5
77.5°	54.2	55.1	56.0	56.0	57.7	59.4	61.1	64.6	78.4	97.3	105.9
80°	41.3	42.2	43.0	43.0	43.9	45.6	46.5	48.2	52.5	65.4	69.7
82.5°	30.1	30.1	30.1	31.0	31.9	31.9	33.6	33.6	36.2	39.6	42.2
85°	18.9	18.9	19.8	19.8	19.8	20.7	19.8	20.7	21.5	22.4	24.1
87.5°	8.6	7.7	8.6	8.6	8.6	9.5	9.5	9.5	9.5	10.3	10.3
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0	2100.0
2.5°	2145.6	2115.5	2064.7	2032.8	2020.8	1983.7	1948.4	1919.2	1904.5	1902.8	1876.1
5°	2187.8	2105.1	2000.1	1912.3	1891.6	1827.0	1743.5	1707.4	1660.0	1641.1	1618.7
7.5°	2222.2	2093.1	1938.1	1805.5	1766.8	1669.5	1562.7	1515.4	1479.2	1422.4	1388.8
10°	2246.3	2070.7	1862.3	1691.0	1635.9	1522.2	1393.1	1336.3	1302.7	1237.3	1210.6
12.5°	2255.8	2042.3	1786.6	1572.2	1524.0	1388.8	1262.2	1203.7	1153.7	1094.3	1068.5
15°	2252.4	2009.6	1709.1	1462.8	1402.6	1265.7	1131.4	1076.2	1029.8	970.3	936.8
17.5°	2229.1	1963.1	1624.7	1356.9	1299.2	1158.0	1022.0	971.2	929.9	872.2	846.4
20°	2190.4	1915.7	1550.7	1260.5	1195.1	1059.9	931.6	877.4	841.2	810.2	791.3
22.5°	2137.0	1859.8	1460.3	1164.9	1108.1	972.1	848.9	805.0	783.5	758.5	744.8
25°	2056.1	1792.6	1378.5	1084.9	1028.0	892.9	785.2	756.0	734.4	718.1	703.4
27.5°	1969.1	1728.0	1296.7	1003.9	950.5	821.4	735.3	712.9	694.0	673.3	660.4
30°	1868.4	1647.1	1219.2	932.5	880.8	763.7	692.2	671.6	656.1	633.7	620.8
32.5°	1749.5	1558.4	1146.8	863.6	815.4	713.8	652.6	630.3	617.3	595.8	582.9
35°	1626.4	1469.7	1067.6	799.9	756.0	669.9	613.9	592.4	578.6	557.1	544.2
37.5°	1505.9	1375.0	997.0	743.9	704.3	625.9	573.4	555.3	542.4	520.0	504.5
40°	1378.5	1266.5	928.2	691.4	654.4	587.2	536.4	520.0	502.8	483.0	467.5
42.5°	1245.0	1171.0	864.4	644.9	610.4	549.3	499.4	482.2	467.5	444.3	437.4
45°	1120.2	1061.6	797.3	595.8	568.3	511.4	463.2	446.0	429.6	409.8	402.9
47.5°	1009.1	954.8	736.2	552.8	525.2	474.4	427.1	409.0	396.9	381.4	371.1
50°	894.6	849.8	669.0	510.6	484.7	434.8	389.2	377.1	363.3	344.4	336.7
52.5°	787.8	753.4	613.9	470.1	446.0	401.2	354.7	342.7	329.8	313.4	302.2
55°	694.0	659.5	551.0	424.5	406.4	364.2	322.9	307.4	297.0	278.1	264.3
57.5°	597.5	581.2	490.8	386.6	369.4	327.2	290.2	278.1	265.2	244.5	230.7
60°	518.3	499.4	434.8	345.3	328.9	293.6	257.4	245.4	233.3	213.5	207.5
62.5°	443.4	429.6	380.6	306.5	292.7	258.3	226.4	215.2	203.2	190.3	186.0
65°	375.4	363.3	326.3	266.9	255.7	225.6	196.3	184.3	176.5	170.5	166.2
67.5°	311.7	304.8	276.4	229.9	221.3	194.6	168.8	159.3	155.0	148.1	144.6
70°	254.0	256.6	230.7	196.3	186.8	165.3	142.9	135.2	130.0	124.0	117.1
72.5°	207.5	206.6	191.1	160.1	153.3	136.0	118.8	113.7	107.6	95.6	87.8
75°	161.0	164.5	149.8	132.6	125.7	108.5	92.1	85.2	79.2	74.9	72.3
77.5°	123.1	124.8	118.0	101.6	95.6	80.9	68.0	64.6	62.0	59.4	58.5
80°	87.8	90.4	83.5	73.2	68.0	56.0	49.1	48.2	47.4	45.6	44.8
82.5°	56.8	60.3	56.8	45.6	43.0	37.0	35.3	35.3	34.4	33.6	32.7
85°	31.0	34.4	32.7	26.7	25.0	23.2	22.4	21.5	21.5	21.5	21.5
87.5°	12.1	16.4	13.8	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
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):

	160°	170°	180°
0°	2100.0	2100.0	2100.0
2.5°	1870.1	1861.5	1858.0
5°	1612.7	1586.0	1579.9
7.5°	1378.5	1367.3	1330.2
10°	1206.3	1171.8	1156.3
12.5°	1051.3	1019.4	1014.3
15°	927.3	904.9	897.2
17.5°	845.5	830.0	820.5
20°	785.2	774.0	767.1
22.5°	739.6	731.0	725.8
25°	699.1	686.2	681.9
27.5°	657.8	646.6	642.3
30°	619.1	609.6	603.6
32.5°	578.6	567.4	564.0
35°	539.8	533.0	529.5
37.5°	502.0	493.4	488.2
40°	466.7	462.4	459.8
42.5°	434.8	427.1	426.2
45°	401.2	393.5	391.8
47.5°	369.4	362.5	361.6
50°	335.8	326.3	319.4
52.5°	295.3	286.7	280.7
55°	259.2	249.7	244.5
57.5°	229.0	224.7	222.1
60°	205.8	203.2	201.5
62.5°	185.1	182.5	182.5
65°	166.2	163.6	161.0
67.5°	142.9	137.8	136.9
70°	114.5	106.8	105.9
72.5°	87.0	86.1	84.4
75°	72.3	70.6	70.6
77.5°	58.5	56.8	56.8
80°	44.8	43.9	44.8
82.5°	32.7	32.7	31.9
85°	21.5	20.7	20.7
87.5°	10.3	10.3	10.3
90°	0.0	0.0	0.0

(END OF REPORT)