

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: P735896

Luminaire Tested: S122DR-S865D940-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P735896  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/24/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DR-S865D940-X4F0-XX-UDD-W-W  
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3392.3 lumens  
Efficiency: N/A  
Efficacy: 96.9 lumens/watt  
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12  
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')  
CIE Type: Direct

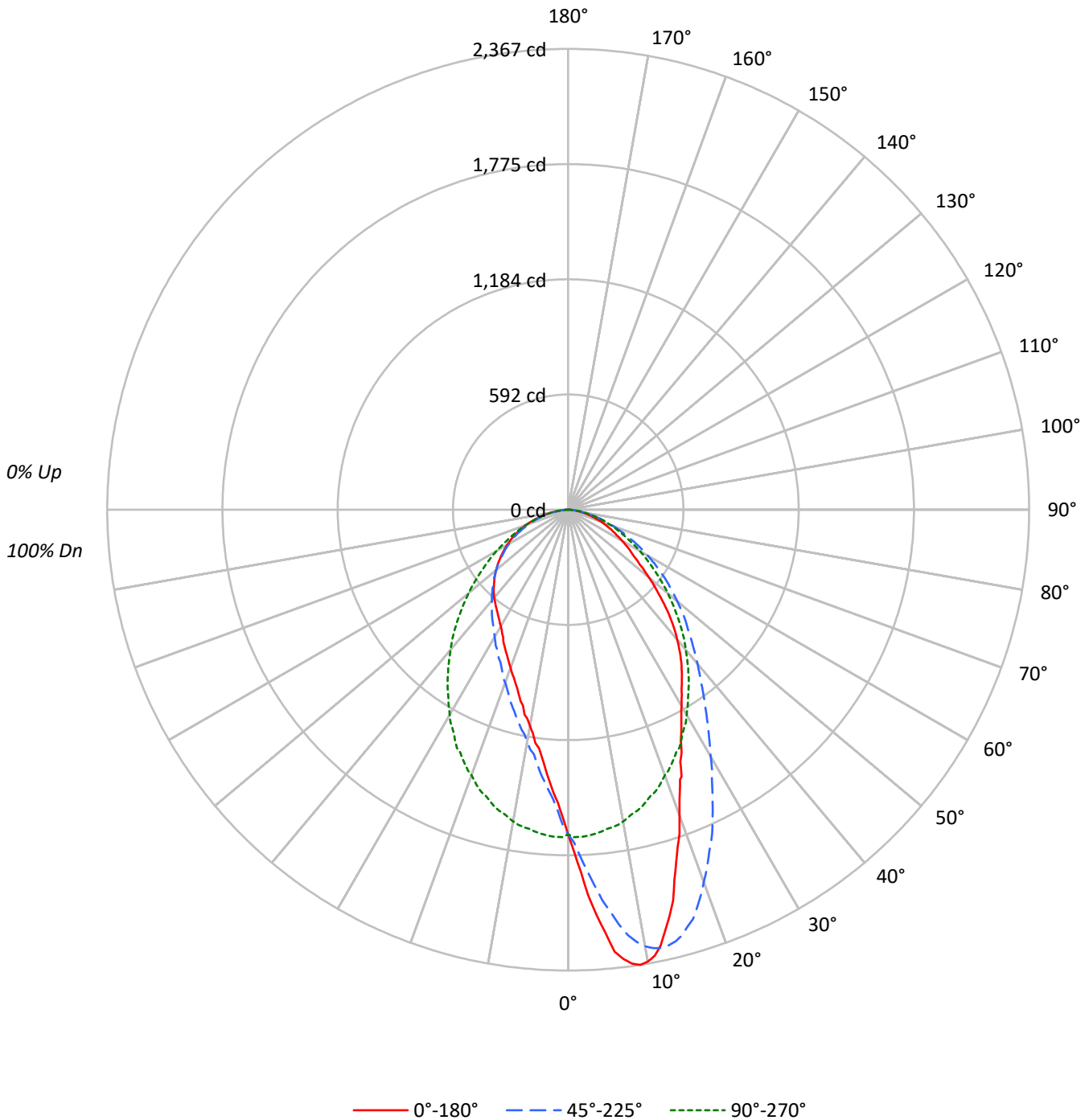
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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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	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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88					86				
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76					74				
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66					64				
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58					56				
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51					49				
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46					44				
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41					39				
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37					35				
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34					32				
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31					30				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°	135°	180°
0°	32048	32048	32048	32048	32048
5°	42032	38846	32214	27018	25780
10°	46005	44462	31736	23618	22008
15°	41387	45034	30874	21320	19519
20°	34151	41652	29698	19338	17698
25°	29187	37159	28652	17887	16405
30°	25815	32453	27009	16759	15361
35°	23878	28744	25328	15973	14924
40°	21852	25935	23576	15296	14837
45°	19251	23674	21803	14826	14641
50°	16207	21826	19978	14425	14461
55°	13632	20083	18049	13941	14209
60°	12290	18149	16388	13524	13920
65°	11152	15946	14595	12871	13654
70°	10048	13780	13139	11914	12943
75°	8763	11660	11236	10806	11830
80°	7361	9132	9132	9387	9896
85°	5558	6572	6815	7322	7079

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 34762 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.1	4.8
10°-20°	450.3	13.3
20°-30°	590.6	17.4
30°-40°	624.2	18.4
40°-50°	579.5	17.1
50°-60°	463.8	13.7
60°-70°	317.2	9.4
70°-80°	163.7	4.8
80°-90°	38.9	1.1
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°	1205.0	35.5
0°-40°	1829.2	53.9
0°-60°	2872.5	84.7
0°-90°	3392.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3392.3	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1667	1667	1667	1667	1667	
5°	2178	2013	1670	1400	1336	215
15°	2080	2263	1552	1071	981	571
25°	1376	1752	1351	843	774	634
35°	1018	1225	1079	681	636	635
45°	708	871	802	545	539	544
55°	407	599	539	416	424	373
65°	245	351	321	283	300	243
75°	118	157	151	146	159	126
85°	25	30	31	33	32	31
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°
0°	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3	1667.3
1°	1759.0	1749.8	1709.7	1712.0	1682.2	1648.9	1618.0	1598.5	1582.5
2°	1862.1	1843.7	1780.7	1749.8	1682.2	1611.1	1547.0	1529.8	1508.0
3°	1987.0	1943.4	1856.4	1783.0	1679.9	1576.8	1488.5	1457.6	1454.1
4°	2087.8	2048.9	1933.1	1817.4	1674.2	1543.5	1443.8	1410.6	1394.6
5°	2178.4	2153.1	2013.3	1860.9	1669.6	1511.4	1400.3	1354.5	1336.1
6°	2282.6	2231.1	2077.5	1904.5	1661.6	1480.5	1361.3	1306.3	1281.1
7°	2325.0	2292.9	2149.7	1933.1	1651.2	1445.0	1312.1	1252.5	1234.1
8°	2354.8	2342.2	2207.0	1980.1	1646.7	1411.7	1268.5	1231.8	1210.1
9°	2367.4	2357.1	2248.3	1999.6	1638.6	1394.6	1246.7	1186.0	1161.9
10°	2357.1	2361.7	2278.0	2029.4	1626.0	1359.0	1210.1	1157.4	1127.6
11°	2333.0	2344.5	2294.1	2063.8	1610.0	1330.4	1176.8	1123.0	1094.3
12°	2287.2	2312.4	2301.0	2087.8	1595.1	1305.2	1153.9	1102.4	1077.1
13°	2216.2	2272.3	2296.4	2098.1	1585.9	1276.5	1125.3	1065.7	1033.6
14°	2152.0	2210.4	2283.8	2121.1	1569.9	1244.4	1098.9	1039.3	1011.8
15°	2079.8	2147.4	2263.1	2127.9	1551.5	1218.1	1071.4	1006.1	980.9
16°	1979.0	2069.5	2225.3	2136.0	1529.8	1188.3	1046.2	984.3	951.1
17°	1895.3	1992.7	2196.7	2140.5	1518.3	1165.4	1024.4	951.1	929.3
18°	1818.5	1928.5	2145.1	2137.1	1500.0	1139.0	992.3	927.0	906.4
19°	1757.8	1847.2	2093.6	2129.1	1474.8	1113.8	968.3	909.8	885.8
20°	1669.6	1772.7	2036.3	2125.6	1451.9	1090.9	945.4	885.8	865.2
21°	1596.2	1701.7	1983.5	2114.2	1435.8	1069.1	928.2	862.9	844.5
22.5°	1500.0	1592.8	1895.3	2092.4	1400.3	1032.5	890.4	841.1	815.9
23°	1488.5	1567.6	1872.4	2085.5	1390.0	1024.4	877.8	828.5	807.9
24°	1416.3	1500.0	1818.5	2063.8	1363.6	999.2	857.1	813.6	789.5
25°	1376.2	1445.0	1752.1	2043.1	1351.0	976.3	843.4	794.1	773.5
26°	1320.1	1399.1	1692.5	2013.3	1323.5	955.7	821.6	776.9	757.4
27°	1278.8	1345.3	1630.6	1991.6	1291.4	933.9	804.4	759.7	735.7
28°	1238.7	1302.9	1571.0	1956.0	1268.5	909.8	791.8	744.8	721.9
29°	1197.5	1253.6	1522.9	1928.5	1246.7	889.2	772.3	725.4	703.6
30°	1163.1	1214.7	1462.2	1891.9	1216.9	865.2	755.1	711.6	692.1
32.5°	1084.0	1127.6	1338.4	1804.8	1145.9	817.0	713.9	673.8	662.3
35°	1017.6	1046.2	1225.0	1707.4	1079.4	765.5	680.7	641.7	636.0
37.5°	947.7	975.2	1121.8	1605.4	1009.5	718.5	642.8	617.6	613.1
40°	870.9	907.6	1033.6	1504.6	939.6	672.6	609.6	590.1	591.3
42.5°	794.1	836.5	947.7	1386.5	874.3	629.1	577.5	563.8	566.1
45°	708.2	762.0	870.9	1278.8	802.1	587.8	545.4	538.6	538.6
47.5°	618.8	687.5	804.4	1167.7	733.4	546.6	514.5	509.9	512.2
50°	542.0	603.9	729.9	1060.0	668.1	508.8	482.4	481.3	483.6
52.5°	466.4	528.3	664.6	959.1	601.6	474.4	451.5	451.5	453.8
55°	406.8	454.9	599.3	853.7	538.6	434.3	416.0	419.4	424.0
57.5°	365.5	397.6	535.1	752.9	480.1	395.3	383.9	386.2	391.9
60°	319.7	344.9	472.1	660.0	426.3	357.5	351.8	356.4	362.1
62.5°	278.5	300.2	412.5	576.4	367.8	320.9	318.6	325.4	331.2
65°	245.2	260.1	350.6	491.6	320.9	284.2	283.0	293.3	300.2



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	210.8	222.3	296.8	411.4	273.9	247.5	247.5	259.0	264.7
70°	178.8	187.9	245.2	339.2	233.8	210.8	212.0	225.7	230.3
72.5°	145.5	153.6	199.4	272.7	189.1	176.5	179.9	191.4	195.9
75°	118.0	123.8	157.0	215.4	151.3	140.9	145.5	155.8	159.3
77.5°	90.5	95.1	115.7	158.1	115.7	110.0	114.6	123.8	123.8
80°	66.5	67.6	82.5	111.2	82.5	79.1	84.8	89.4	89.4
82.5°	43.5	45.8	53.9	71.0	55.0	53.9	56.1	59.6	59.6
85°	25.2	26.4	29.8	39.0	30.9	30.9	33.2	33.2	32.1
87.5°	10.3	11.5	12.6	14.9	13.8	14.9	14.9	12.6	13.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)