

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: P644415

Luminaire Tested: CRQ4DIP-SR4F0-75D150U840-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644415  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 2/20/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: CRQ4DIP-SR4F0-75D150U840-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 1500 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

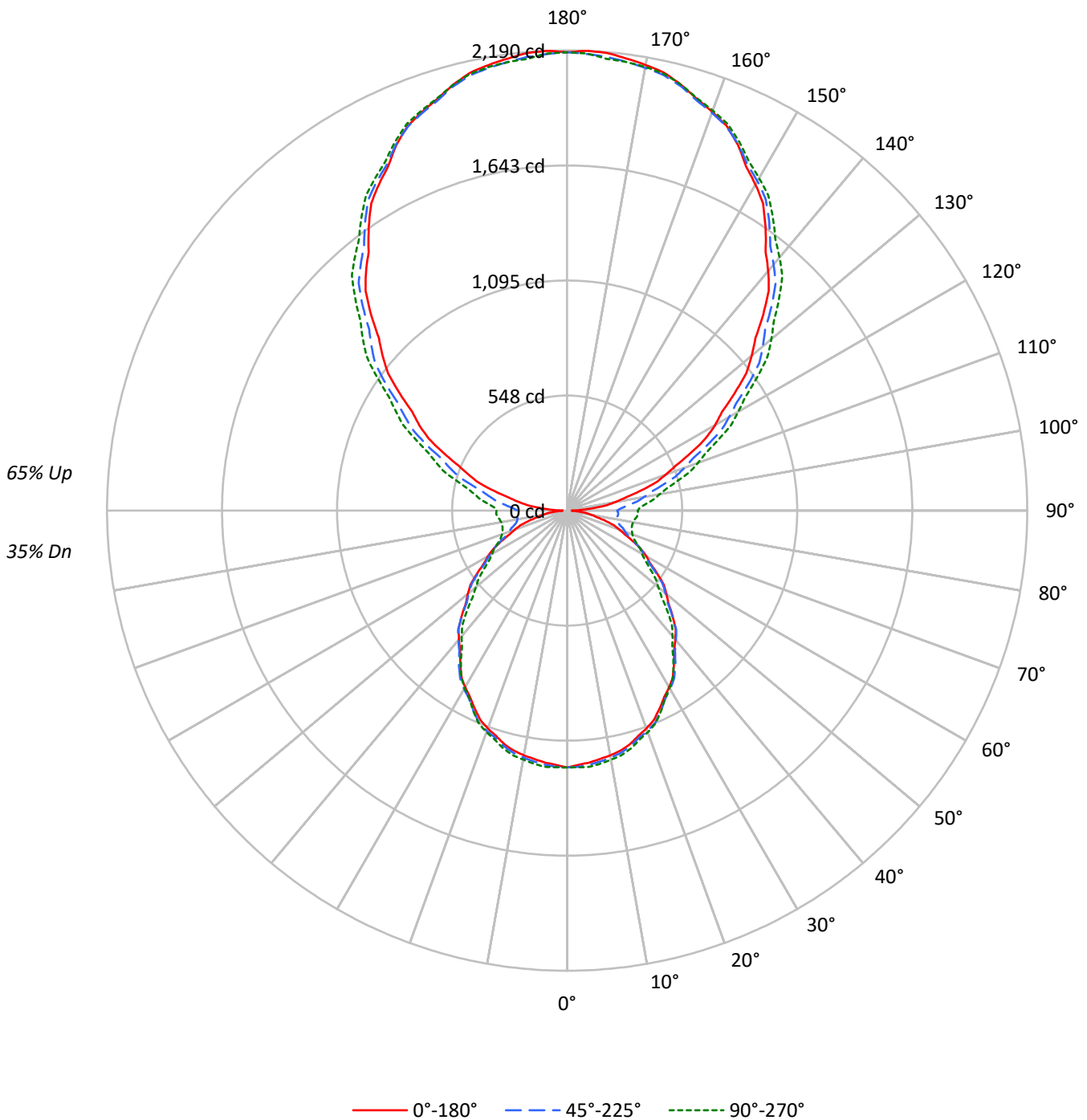
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9593.2 lumens  
Efficiency: N/A  
Efficacy: 136.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: Semi-Indirect

Input Watts (W): 70.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35				
1	94	89	85	81	84	81	77	74	64	62	60	50	48	47	36	35	34	28				
2	85	78	71	66	77	70	65	60	56	52	49	43	41	39	32	30	28	23				
3	78	68	61	55	70	62	55	50	50	45	41	38	35	33	28	26	24	19				
4	71	60	52	46	64	55	48	43	44	39	35	34	31	28	25	23	21	17				
5	65	54	45	40	58	49	42	36	39	34	30	31	27	24	23	20	18	15				
6	60	48	40	34	54	44	37	31	35	30	26	28	24	21	20	18	16	13				
7	55	43	35	30	50	39	32	28	32	27	23	25	21	19	19	16	14	11				
8	51	39	31	26	46	36	29	24	29	24	20	23	19	16	17	15	13	10				
9	48	36	28	23	43	33	26	22	27	22	18	21	17	15	16	13	11	9				
10	44	33	25	21	40	30	24	19	24	20	16	19	16	13	15	12	10	8				

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

	0°	45°	90°
0°	19740	19740	19740
5°	19366	17430	16888
10°	19113	15537	14588
15°	18832	13914	12761
20°	18401	12484	11161
25°	17828	11124	9726
30°	17263	9876	8442
35°	16499	8713	7246
40°	15783	7591	6142
45°	14959	6527	5126
50°	14087	5572	4205
55°	13161	4678	3509
60°	12281	3884	2979
65°	11195	3243	2613
70°	10149	2742	2401
75°	8874	2468	2343
80°	7413	2391	2401
85°	5408	2526	2589

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14959 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.5	1.2
10°-20°	327.8	3.4
20°-30°	484.2	5.0
30°-40°	557.6	5.8
40°-50°	541.4	5.6
50°-60°	459.1	4.8
60°-70°	356.0	3.7
70°-80°	272.5	2.8
80°-90°	238.2	2.5
90°-100°	297.8	3.1
100°-110°	488.7	5.1
110°-120°	723.9	7.5
120°-130°	937.5	9.8
130°-140°	1061.0	11.1
140°-150°	1048.4	10.9
150°-160°	886.8	9.2
160°-170°	590.4	6.2
170°-180°	206.5	2.2
0°-30°	927.5	9.7
0°-40°	1485.1	15.5
0°-60°	2485.6	25.9
0°-90°	3352.2	34.9
90°-120°	1510.4	15.7
90°-150°	4557.3	47.5
90°-180°	6241.0	65.1
0°-180°	9593.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1223	1223	1223	1223	1223	
5°	1204	1226	1214	1216	1224	114
15°	1152	1173	1161	1164	1172	324
25°	1040	1061	1053	1048	1055	479
35°	886	906	898	882	882	555
45°	710	723	707	684	674	547
55°	523	539	516	487	481	469
65°	345	361	353	359	362	344
75°	186	205	257	303	318	199
85°	57	123	243	313	333	61
90°	21	111	238	312	336	18
95°	122	167	293	364	379	123
105°	358	379	469	532	542	381
115°	649	678	735	779	791	644
125°	972	1008	1055	1093	1102	872
135°	1320	1349	1375	1410	1426	1017
145°	1646	1666	1676	1688	1706	1028
155°	1922	1933	1924	1927	1938	882
165°	2098	2107	2091	2084	2098	591
175°	2186	2195	2167	2158	2158	207
180°	2181	2181	2181	2181	2181	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1222.6	1222.6	1222.6	1222.6	1222.6
2.5°	1211.5	1229.1	1220.3	1221.2	1222.6
5°	1203.6	1225.5	1214.0	1215.9	1224.3
7.5°	1192.5	1214.6	1204.9	1204.9	1214.7
10°	1182.9	1203.1	1193.8	1195.2	1203.6
12.5°	1170.4	1193.0	1180.9	1184.1	1192.5
15°	1151.8	1173.2	1161.0	1164.1	1172.5
17.5°	1124.2	1144.7	1134.1	1134.7	1143.2
20°	1103.4	1122.6	1116.1	1114.0	1122.4
22.5°	1078.6	1099.1	1094.0	1087.8	1097.6
25°	1039.6	1061.0	1053.4	1048.3	1055.1
27.5°	1000.9	1021.5	1010.2	1002.4	1007.4
30°	970.5	990.2	980.3	970.6	975.7
32.5°	937.3	958.9	947.1	936.0	938.4
35°	885.9	906.2	898.0	882.4	882.4
37.5°	837.2	855.0	842.6	825.7	822.0
40°	801.2	820.4	805.3	785.6	780.5
42.5°	763.9	783.1	768.5	745.5	737.7
45°	709.7	723.3	706.9	683.6	673.5
47.5°	653.8	669.5	647.7	621.4	609.2
50°	616.5	631.7	611.3	579.9	566.4
52.5°	580.6	594.9	572.2	540.4	530.0
55°	523.2	539.0	515.8	486.9	480.7
57.5°	469.7	485.2	461.2	444.8	438.0
60°	435.2	449.3	427.2	416.8	411.8
62.5°	396.5	412.4	393.6	393.0	391.6
65°	345.4	360.6	353.0	359.0	361.8
67.5°	297.4	310.9	314.8	335.0	342.3
70°	264.2	277.8	293.2	321.3	330.4
72.5°	233.8	247.9	278.5	312.6	323.1
75°	186.5	204.6	257.1	303.2	317.9
77.5°	145.1	166.8	244.7	299.9	316.8
80°	117.4	149.1	240.6	300.1	318.7
82.5°	92.6	134.2	238.8	305.2	323.9
85°	57.0	123.1	243.2	313.0	333.4
87.5°	29.1	116.3	243.2	315.2	338.1
90°	21.4	111.2	238.1	311.6	335.9
92.5°	58.4	127.5	256.7	328.2	346.6
95°	121.5	167.3	293.3	363.6	378.8
97.5°	185.1	218.6	337.0	402.9	417.6
100°	231.4	258.1	370.3	434.8	447.2
102.5°	281.9	303.1	409.3	470.1	484.8
105°	357.6	379.2	469.4	532.1	542.3
107.5°	441.7	464.5	541.5	601.3	612.4
110°	497.7	525.5	593.9	648.5	661.5

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	558.8	586.6	647.6	699.5	712.5
115°	648.8	678.3	735.1	779.3	790.7
117.5°	743.0	773.6	825.5	867.5	878.4
120°	812.0	840.4	890.8	931.0	940.0
122.5°	873.2	905.6	955.6	995.8	1004.8
125°	972.4	1007.5	1055.2	1093.0	1102.1
127.5°	1074.5	1108.0	1152.0	1190.3	1202.1
130°	1147.2	1176.6	1214.9	1255.2	1268.8
132.5°	1214.8	1244.3	1278.4	1318.2	1333.6
135°	1319.7	1349.1	1375.3	1410.4	1426.2
137.5°	1420.2	1448.7	1468.8	1496.6	1516.5
140°	1488.7	1513.6	1528.1	1554.0	1572.1
142.5°	1551.7	1576.6	1587.4	1609.5	1627.6
145°	1646.2	1666.5	1676.3	1688.3	1706.4
147.5°	1734.6	1754.5	1758.7	1769.1	1780.5
150°	1792.0	1810.1	1810.6	1815.4	1826.8
152.5°	1845.8	1862.0	1856.9	1859.9	1873.1
155°	1921.7	1933.0	1924.0	1926.6	1937.9
157.5°	1981.9	1993.2	1979.1	1983.5	1992.5
160°	2018.9	2030.3	2014.3	2016.8	2025.9
162.5°	2054.1	2061.8	2047.6	2044.7	2057.4
165°	2097.7	2106.7	2090.7	2084.1	2097.7
167.5°	2134.7	2143.8	2122.7	2115.6	2129.1
170°	2153.2	2162.3	2139.3	2130.4	2144.0
172.5°	2169.9	2178.9	2154.1	2143.3	2153.2
175°	2185.6	2194.7	2167.1	2157.9	2157.9
177.5°	2190.3	2195.7	2175.4	2166.4	2177.3
180°	2181.0	2181.0	2181.0	2181.0	2181.0

(END OF REPORT)