

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: P644421

Luminaire Tested: CRQ4DIP-SR4F0-75D150U940-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644421
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-SR4F0-75D150U940-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, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

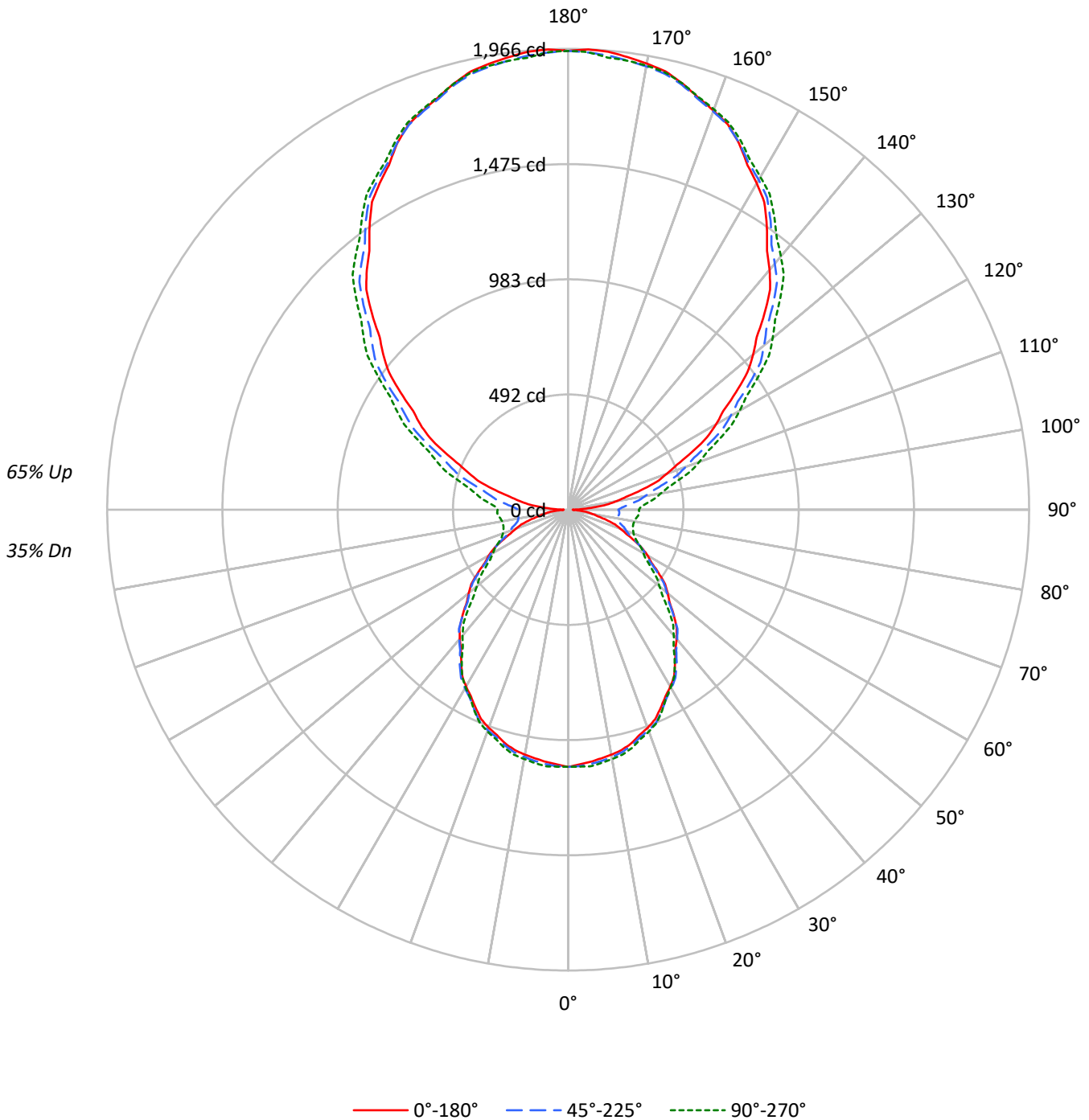
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8609.0 lumens
Efficiency: N/A
Efficacy: 122.3 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 (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	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°	17715	17715	17715
5°	17379	15641	15155
10°	17151	13944	13091
15°	16900	12487	11451
20°	16513	11203	10016
25°	15998	9983	8729
30°	15491	8863	7576
35°	14806	7819	6503
40°	14166	6812	5513
45°	13424	5856	4600
50°	12640	5001	3774
55°	11813	4198	3149
60°	11019	3485	2673
65°	10044	2910	2345
70°	9108	2461	2155
75°	7966	2215	2103
80°	6655	2146	2155
85°	4848	2266	2323

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 13424 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	1.2
10°-20°	294.2	3.4
20°-30°	434.5	5.0
30°-40°	500.4	5.8
40°-50°	485.8	5.6
50°-60°	412.0	4.8
60°-70°	319.5	3.7
70°-80°	244.5	2.8
80°-90°	213.7	2.5
90°-100°	267.2	3.1
100°-110°	438.5	5.1
110°-120°	649.7	7.5
120°-130°	841.3	9.8
130°-140°	952.2	11.1
140°-150°	940.8	10.9
150°-160°	795.8	9.2
160°-170°	529.8	6.2
170°-180°	185.3	2.2
0°-30°	832.3	9.7
0°-40°	1332.7	15.5
0°-60°	2230.6	25.9
0°-90°	3008.3	34.9
90°-120°	1355.5	15.7
90°-150°	4089.8	47.5
90°-180°	5601.0	65.1
0°-180°	8609.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1097	1097	1097	1097	1097	
5°	1080	1100	1089	1091	1099	102
15°	1034	1053	1042	1045	1052	291
25°	933	952	945	941	947	430
35°	795	813	806	792	792	498
45°	637	649	634	614	604	491
55°	470	484	463	437	431	421
65°	310	324	317	322	325	308
75°	167	184	231	272	285	179
85°	51	110	218	281	299	54
90°	19	100	214	280	301	16
95°	109	150	263	326	340	110
105°	321	340	421	478	487	342
115°	582	609	660	699	710	578
125°	873	904	947	981	989	782
135°	1184	1211	1234	1266	1280	913
145°	1477	1496	1504	1515	1531	923
155°	1725	1735	1727	1729	1739	792
165°	1882	1891	1876	1870	1882	531
175°	1961	1970	1945	1936	1936	186
180°	1957	1957	1957	1957	1957	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1097.2	1097.2	1097.2	1097.2	1097.2
2.5°	1087.3	1103.0	1095.1	1096.0	1097.2
5°	1080.1	1099.8	1089.4	1091.1	1098.7
7.5°	1070.2	1090.0	1081.3	1081.3	1090.0
10°	1061.5	1079.7	1071.4	1072.6	1080.1
12.5°	1050.4	1070.6	1059.8	1062.6	1070.2
15°	1033.6	1052.9	1041.9	1044.7	1052.2
17.5°	1008.8	1027.2	1017.7	1018.3	1025.9
20°	990.2	1007.4	1001.6	999.7	1007.3
22.5°	967.9	986.3	981.8	976.2	985.0
25°	932.9	952.1	945.3	940.8	946.9
27.5°	898.2	916.7	906.6	899.5	904.1
30°	870.9	888.6	879.7	871.0	875.6
32.5°	841.2	860.5	850.0	840.0	842.1
35°	795.0	813.2	805.9	791.9	791.9
37.5°	751.3	767.3	756.2	741.0	737.6
40°	719.1	736.3	722.7	705.0	700.5
42.5°	685.6	702.8	689.6	669.0	662.0
45°	636.9	649.1	634.3	613.5	604.4
47.5°	586.7	600.8	581.3	557.6	546.7
50°	553.2	566.9	548.6	520.4	508.3
52.5°	521.0	533.9	513.5	485.0	475.7
55°	469.6	483.7	462.9	436.9	431.4
57.5°	421.5	435.4	413.9	399.2	393.0
60°	390.5	403.2	383.3	374.0	369.5
62.5°	355.8	370.1	353.2	352.7	351.4
65°	309.9	323.6	316.8	322.1	324.7
67.5°	266.9	279.0	282.5	300.6	307.2
70°	237.1	249.3	263.1	288.3	296.5
72.5°	209.8	222.4	250.0	280.6	289.9
75°	167.4	183.6	230.7	272.1	285.3
77.5°	130.2	149.7	219.6	269.2	284.3
80°	105.4	133.8	215.9	269.3	286.0
82.5°	83.1	120.4	214.3	273.9	290.7
85°	51.1	110.5	218.2	280.9	299.2
87.5°	26.2	104.4	218.2	282.8	303.5
90°	19.2	99.8	213.7	279.6	301.4
92.5°	52.4	114.4	230.4	294.5	311.0
95°	109.0	150.1	263.2	326.3	340.0
97.5°	166.1	196.1	302.4	361.5	374.7
100°	207.7	231.6	332.3	390.2	401.4
102.5°	253.0	272.0	367.3	421.9	435.1
105°	320.9	340.3	421.2	477.5	486.6
107.5°	396.4	416.8	486.0	539.6	549.6
110°	446.7	471.6	532.9	582.0	593.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	501.5	526.4	581.1	627.7	639.4
115°	582.2	608.7	659.7	699.4	709.5
117.5°	666.8	694.3	740.8	778.6	788.3
120°	728.7	754.1	799.4	835.5	843.6
122.5°	783.6	812.7	857.6	893.6	901.8
125°	872.6	904.1	946.9	980.9	989.0
127.5°	964.3	994.3	1033.8	1068.2	1078.8
130°	1029.5	1055.9	1090.3	1126.4	1138.6
132.5°	1090.2	1116.6	1147.2	1183.0	1196.8
135°	1184.3	1210.7	1234.2	1265.7	1279.9
137.5°	1274.5	1300.1	1318.1	1343.1	1360.9
140°	1336.0	1358.4	1371.3	1394.6	1410.8
142.5°	1392.5	1414.9	1424.5	1444.4	1460.7
145°	1477.3	1495.6	1504.3	1515.1	1531.3
147.5°	1556.7	1574.5	1578.3	1587.7	1597.8
150°	1608.2	1624.5	1624.8	1629.2	1639.4
152.5°	1656.4	1671.0	1666.4	1669.1	1680.9
155°	1724.6	1734.7	1726.6	1728.9	1739.1
157.5°	1778.6	1788.7	1776.1	1780.0	1788.1
160°	1811.8	1822.0	1807.7	1809.9	1818.1
162.5°	1843.4	1850.3	1837.6	1834.9	1846.3
165°	1882.5	1890.6	1876.2	1870.3	1882.5
167.5°	1915.7	1923.8	1904.9	1898.5	1910.7
170°	1932.3	1940.5	1919.9	1911.8	1924.0
172.5°	1947.3	1955.4	1933.2	1923.4	1932.3
175°	1961.4	1969.5	1944.8	1936.5	1936.5
177.5°	1965.6	1970.5	1952.3	1944.2	1953.9
180°	1957.3	1957.3	1957.3	1957.3	1957.3

(END OF REPORT)