

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: P644191

Luminaire Tested: CRQ4DIP-SR4F0-100D125U935-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644191
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-SR4F0-100D125U935-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 1250 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

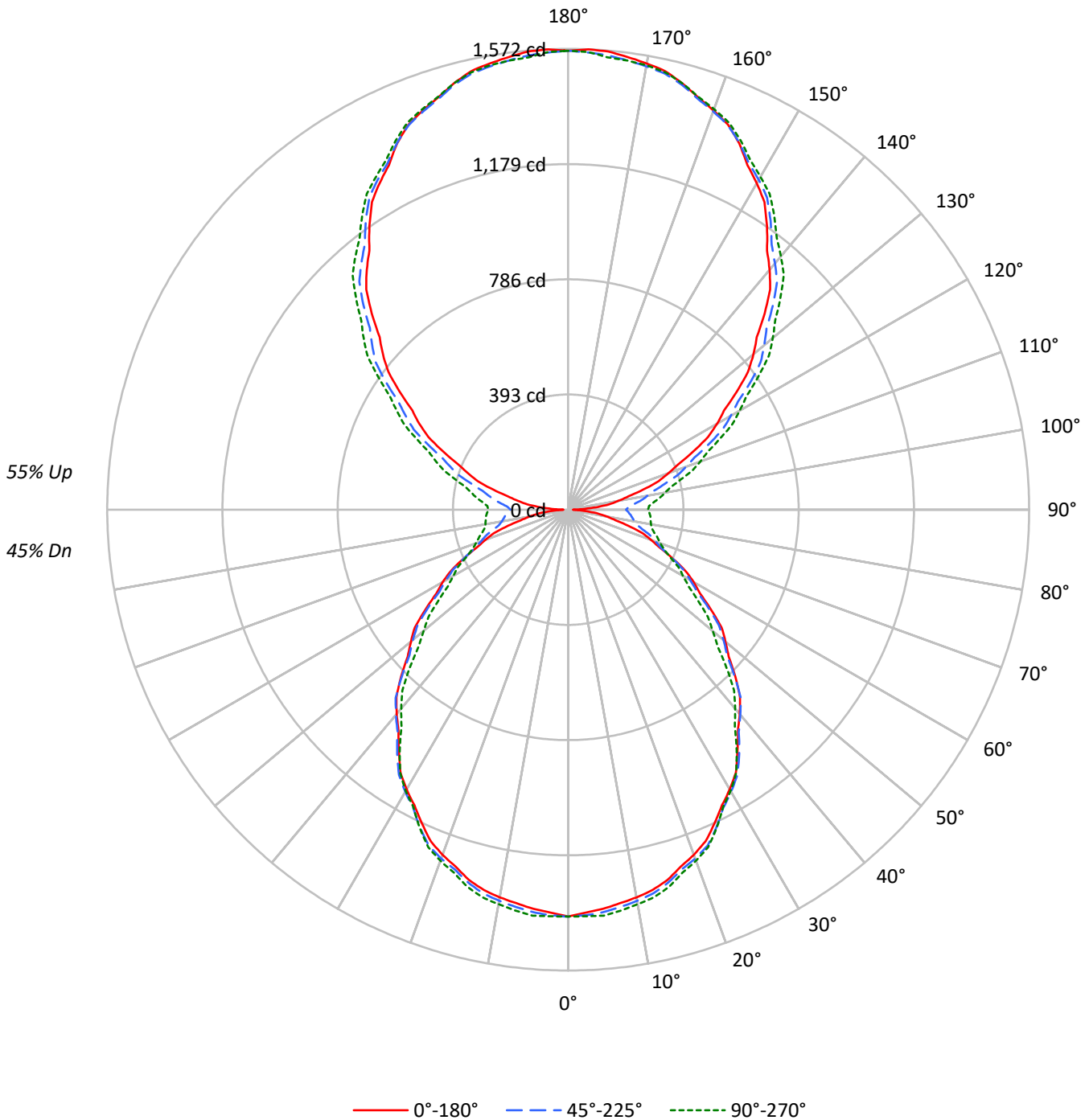
Lumens per Lamp: N/A
Luminaire Lumens: 8201.5 lumens
Efficiency: N/A
Efficacy: 120.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 68.1
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	106	106	106	106	97	97	97	97	81	81	81	65	65	65	52	52	52	45				
1	96	91	87	84	88	84	80	77	70	67	65	57	55	53	44	43	42	37				
2	87	80	73	68	80	73	68	63	61	57	53	49	47	44	39	37	35	30				
3	80	70	63	57	73	64	58	53	54	49	45	44	40	37	35	32	30	26				
4	73	62	54	48	66	57	50	45	48	42	38	39	35	32	31	28	26	22				
5	67	55	47	41	61	51	44	38	43	37	33	35	31	28	28	25	23	19				
6	62	49	41	36	56	46	38	33	38	33	29	32	27	24	25	22	20	17				
7	57	45	37	31	52	41	34	29	35	29	25	29	25	21	23	20	18	15				
8	53	41	33	27	48	38	31	26	32	26	22	26	22	19	21	18	16	13				
9	49	37	30	24	45	34	28	23	29	24	20	24	20	17	20	17	14	12				
10	46	34	27	22	42	31	25	21	27	22	18	22	18	16	18	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22410	22410	22410
5°	21987	19787	19174
10°	21698	17627	16563
15°	21380	15785	14488
20°	20890	14162	12671
25°	20239	12629	11042
30°	19599	11193	9584
35°	18730	9863	8226
40°	17921	8609	6973
45°	16984	7400	5820
50°	15992	6301	4774
55°	14942	5293	3934
60°	13940	4374	3270
65°	12709	3592	2772
70°	11524	2959	2431
75°	10074	2533	2240
80°	8417	2283	2158
85°	6139	2225	2188

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 16984 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.1	1.6
10°-20°	372.0	4.5
20°-30°	549.4	6.7
30°-40°	632.3	7.7
40°-50°	613.7	7.5
50°-60°	518.0	6.3
60°-70°	391.3	4.8
70°-80°	278.5	3.4
80°-90°	211.3	2.6
90°-100°	229.7	2.8
100°-110°	356.5	4.3
110°-120°	521.6	6.4
120°-130°	673.7	8.2
130°-140°	761.6	9.3
140°-150°	752.5	9.2
150°-160°	636.5	7.8
160°-170°	423.8	5.2
170°-180°	148.2	1.8
0°-30°	1052.4	12.8
0°-40°	1684.7	20.5
0°-60°	2816.4	34.3
0°-90°	3697.5	45.1
90°-120°	1107.8	13.5
90°-150°	3295.6	40.2
90°-180°	4504.0	54.9
0°-180°	8201.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1388	1388	1388	1388	1388	
5°	1366	1391	1378	1380	1390	130
15°	1308	1330	1317	1322	1331	368
25°	1180	1203	1196	1190	1198	544
35°	1006	1026	1017	1002	1002	630
45°	806	818	802	776	765	621
55°	594	608	584	550	539	533
65°	392	404	391	385	384	390
75°	212	225	264	295	304	226
85°	65	117	214	267	282	69
90°	18	94	197	254	272	15
95°	94	127	226	281	293	94
105°	264	275	340	388	397	281
115°	471	489	529	561	569	467
125°	701	725	758	784	791	628
135°	947	968	987	1012	1024	730
145°	1182	1196	1203	1212	1225	738
155°	1379	1387	1381	1383	1391	633
165°	1506	1512	1501	1496	1506	424
175°	1569	1575	1555	1549	1549	149
180°	1565	1565	1565	1565	1565	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1388.0	<i>1388.0</i>	1388.0	1388.0	1388.0
2.5°	1375.5	<i>1395.4</i>	1384.6	1386.5	1388.0
5°	1366.5	<i>1391.4</i>	1378.2	1380.4	1390.0
7.5°	1353.9	<i>1378.2</i>	1366.9	1367.9	1379.0
10°	1342.9	<i>1365.9</i>	1354.4	1356.9	1366.5
12.5°	1328.8	<i>1352.9</i>	1340.5	1344.3	1353.9
15°	1307.6	<i>1330.1</i>	1317.1	1321.6	1331.2
17.5°	1276.3	<i>1298.6</i>	1286.6	1288.3	1297.8
20°	1252.7	<i>1273.5</i>	1266.2	1264.7	1274.3
22.5°	1224.5	<i>1246.8</i>	1241.1	1235.0	1246.1
25°	1180.2	<i>1202.6</i>	1195.9	1190.2	1197.9
27.5°	1136.3	<i>1156.3</i>	1145.7	1138.0	1143.7
30°	1101.8	<i>1122.3</i>	1111.0	1101.9	1107.7
32.5°	1064.1	<i>1085.9</i>	1073.4	1062.6	1065.3
35°	1005.7	<i>1025.9</i>	1016.6	1001.8	1001.8
37.5°	950.4	<i>966.9</i>	955.6	937.4	933.2
40°	909.7	<i>927.7</i>	913.3	891.9	886.1
42.5°	867.3	<i>885.3</i>	870.7	846.3	837.5
45°	805.8	<i>818.3</i>	801.5	776.1	764.6
47.5°	742.2	<i>756.5</i>	734.0	705.5	691.7
50°	699.9	<i>714.3</i>	691.2	658.4	643.0
52.5°	659.1	<i>671.8</i>	647.5	612.7	600.2
55°	594.0	<i>608.2</i>	583.6	549.8	539.0
57.5°	533.2	<i>547.0</i>	520.5	496.2	486.4
60°	494.0	<i>506.3</i>	481.1	460.6	452.0
62.5°	450.1	<i>463.7</i>	441.4	429.6	423.7
65°	392.1	<i>403.8</i>	391.1	385.2	383.7
67.5°	337.6	<i>347.3</i>	344.1	351.0	353.4
70°	300.0	<i>309.7</i>	316.4	330.8	334.5
72.5°	265.4	<i>275.0</i>	294.4	314.8	320.0
75°	211.7	<i>224.7</i>	263.8	294.7	303.9
77.5°	164.7	<i>179.2</i>	241.2	280.6	292.0
80°	133.3	<i>156.1</i>	229.7	273.7	286.5
82.5°	105.1	<i>136.1</i>	221.5	271.1	283.8
85°	64.7	<i>117.1</i>	214.2	267.2	281.8
87.5°	31.7	<i>102.9</i>	205.7	261.1	277.7
90°	17.5	<i>94.0</i>	196.9	253.9	272.1
92.5°	46.4	<i>102.3</i>	205.6	261.2	275.7
95°	94.4	<i>126.6</i>	225.6	281.2	292.8
97.5°	141.5	<i>161.1</i>	252.8	304.3	315.7
100°	174.7	<i>189.0</i>	274.5	324.4	334.7
102.5°	210.4	<i>220.7</i>	300.1	347.4	358.8
105°	263.9	<i>275.1</i>	340.5	388.4	397.1
107.5°	323.4	<i>335.6</i>	390.7	435.6	444.3
110°	363.0	<i>379.4</i>	427.7	468.4	478.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	406.9	423.3	466.2	503.8	513.8
115°	470.7	489.0	529.0	560.8	568.9
117.5°	537.5	557.5	593.8	623.2	631.0
120°	586.4	605.4	640.1	668.2	674.7
122.5°	630.3	651.6	686.6	714.7	721.2
125°	700.8	724.6	758.1	784.5	791.0
127.5°	773.2	796.7	827.5	854.3	862.8
130°	824.8	846.0	872.7	900.9	910.7
132.5°	872.2	893.3	917.7	946.1	957.2
135°	947.2	968.3	987.1	1012.3	1023.7
137.5°	1019.3	1039.8	1054.2	1074.2	1088.5
140°	1068.5	1086.4	1096.8	1115.3	1128.3
142.5°	1113.7	1131.6	1139.3	1155.2	1168.2
145°	1181.5	1196.1	1203.1	1211.7	1224.7
147.5°	1245.0	1259.3	1262.3	1269.8	1277.9
150°	1286.2	1299.2	1299.5	1303.0	1311.1
152.5°	1324.8	1336.5	1332.7	1335.0	1344.4
155°	1379.3	1387.4	1380.9	1382.8	1390.9
157.5°	1422.5	1430.6	1420.5	1423.6	1430.1
160°	1449.1	1457.2	1445.7	1447.6	1454.1
162.5°	1474.3	1479.8	1469.7	1467.6	1476.7
165°	1505.6	1512.1	1500.6	1495.8	1505.6
167.5°	1532.2	1538.7	1523.5	1518.4	1528.2
170°	1545.4	1551.9	1535.5	1529.1	1538.8
172.5°	1557.4	1563.9	1546.1	1538.3	1545.4
175°	1568.7	1575.2	1555.4	1548.8	1548.8
177.5°	1572.0	1575.9	1561.4	1554.9	1562.7
180°	1565.4	1565.4	1565.4	1565.4	1565.4

(END OF REPORT)