

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: P644175

Luminaire Tested: CRQ4DIP-SR4F0-100D100U840-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644175
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-SR4F0-100D100U840-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

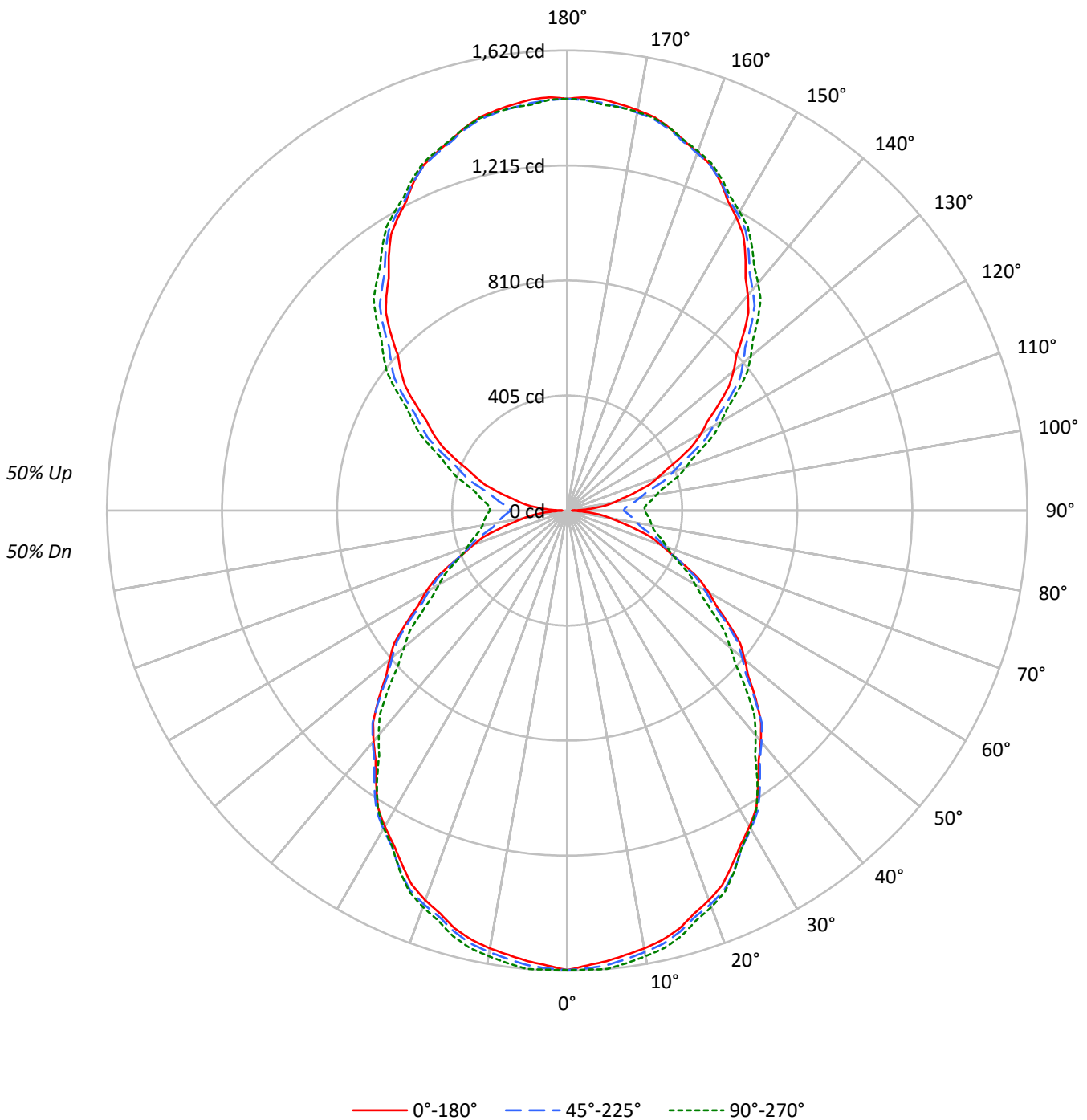
Lumens per Lamp: N/A
Luminaire Lumens: 8452.4 lumens
Efficiency: N/A
Efficacy: 143.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 58.9
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	107	107	107	107	99	99	99	99	84	84	84	69	69	69	57	57	57	50				
1	97	93	88	85	89	86	82	79	72	70	67	60	58	57	49	48	46	41				
2	88	81	74	69	81	75	69	64	63	59	56	53	50	47	43	41	39	34				
3	81	71	63	57	74	66	59	54	56	51	47	47	43	40	38	35	33	29				
4	74	63	55	49	68	58	51	46	50	44	40	42	37	34	34	31	29	25				
5	68	56	48	42	62	52	45	39	44	39	34	37	33	30	31	28	25	22				
6	62	50	42	36	57	47	39	34	40	34	30	34	29	26	28	25	22	19				
7	58	45	37	32	53	42	35	30	36	31	26	31	26	23	26	22	20	17				
8	54	41	33	28	49	38	31	27	33	28	24	28	24	21	24	20	18	15				
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	22	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	26118	26118	26118
5°	25624	23060	22345
10°	25286	20537	19302
15°	24916	18392	16883
20°	24346	16500	14767
25°	23586	14718	12868
30°	22840	13037	11170
35°	21829	11483	9587
40°	20883	10028	8127
45°	19792	8621	6782
50°	18638	7332	5563
55°	17415	6162	4565
60°	16248	5084	3764
65°	14809	4150	3150
70°	13429	3386	2712
75°	11744	2842	2437
80°	9812	2483	2281
85°	7154	2328	2242

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 19792 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.7	1.8
10°-20°	433.5	5.1
20°-30°	640.1	7.6
30°-40°	736.5	8.7
40°-50°	714.8	8.5
50°-60°	602.3	7.1
60°-70°	450.7	5.3
70°-80°	311.9	3.7
80°-90°	221.9	2.6
90°-100°	223.1	2.6
100°-110°	334.0	4.0
110°-120°	484.5	5.7
120°-130°	624.6	7.4
130°-140°	705.5	8.3
140°-150°	697.0	8.2
150°-160°	589.5	7.0
160°-170°	392.5	4.6
170°-180°	137.3	1.6
0°-30°	1226.3	14.5
0°-40°	1962.9	23.2
0°-60°	3280.0	38.8
0°-90°	4264.5	50.5
90°-120°	1041.5	12.3
90°-150°	3068.6	36.3
90°-180°	4188.0	49.5
0°-180°	8452.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1618	1618	1618	1618	1618	
5°	1592	1622	1606	1609	1620	151
15°	1524	1549	1535	1540	1551	429
25°	1375	1401	1394	1387	1396	634
35°	1172	1194	1184	1168	1168	734
45°	939	952	934	904	891	724
55°	692	707	679	640	625	621
65°	457	468	452	440	436	454
75°	247	259	296	323	331	264
85°	75	127	224	275	289	80
90°	18	96	199	255	272	16
95°	92	122	219	274	285	91
105°	249	257	318	364	373	265
115°	439	454	491	520	528	436
125°	651	672	703	727	733	583
135°	877	897	914	938	948	676
145°	1094	1108	1114	1122	1134	684
155°	1278	1285	1279	1281	1288	587
165°	1394	1400	1390	1386	1394	393
175°	1453	1459	1441	1434	1434	138
180°	1450	1450	1450	1450	1450	

TEST NUMBER: P644175

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1617.6	1617.6	1617.6	1617.6	1617.6
2.5°	1603.0	1626.2	1613.3	1615.8	1617.6
5°	1592.5	1621.5	1606.2	1608.7	1619.9
7.5°	1577.8	1605.9	1592.6	1594.1	1607.1
10°	1565.0	1591.9	1578.0	1581.3	1592.5
12.5°	1548.6	1576.0	1562.2	1566.7	1577.8
15°	1523.9	1549.3	1534.6	1540.2	1551.3
17.5°	1487.4	1513.0	1499.0	1501.3	1512.5
20°	1459.9	1483.8	1475.2	1473.9	1485.1
22.5°	1427.0	1452.7	1446.0	1439.2	1452.2
25°	1375.4	1400.8	1393.7	1387.0	1396.0
27.5°	1324.2	1346.2	1334.8	1326.2	1332.9
30°	1284.0	1307.1	1294.0	1284.2	1290.9
32.5°	1240.2	1264.5	1250.1	1238.4	1241.5
35°	1172.1	1194.5	1183.5	1167.5	1167.5
37.5°	1107.6	1125.3	1113.3	1092.5	1087.5
40°	1060.1	1079.5	1063.9	1039.4	1032.7
42.5°	1010.8	1030.2	1014.0	986.3	976.0
45°	939.0	952.5	933.7	904.5	891.0
47.5°	865.0	880.1	854.8	822.1	806.1
50°	815.7	831.3	804.3	767.3	749.4
52.5°	768.1	781.4	753.7	713.7	698.9
55°	692.3	707.2	679.4	639.5	625.4
57.5°	621.4	636.0	605.4	574.7	562.4
60°	575.8	588.5	559.1	531.5	520.4
62.5°	524.6	538.5	512.2	493.9	485.2
65°	456.9	468.2	451.8	439.7	436.1
67.5°	393.4	402.5	395.5	397.0	397.4
70°	349.6	358.6	362.0	371.5	373.1
72.5°	309.4	317.8	334.1	350.3	353.7
75°	246.8	258.8	296.0	323.1	330.7
77.5°	191.9	204.6	266.1	302.4	312.5
80°	155.4	176.4	249.8	291.5	302.8
82.5°	122.5	151.9	237.7	285.0	296.3
85°	75.4	127.2	224.2	275.2	288.7
87.5°	36.4	107.9	210.8	264.5	280.0
90°	17.6	96.2	199.2	254.9	272.2
92.5°	45.9	101.8	204.3	258.7	272.9
95°	92.1	121.5	218.8	273.6	284.8
97.5°	136.7	152.0	241.3	291.7	302.8
100°	167.5	177.4	259.8	308.4	318.9
102.5°	200.1	206.5	282.1	328.2	339.3
105°	249.1	256.8	317.7	364.0	373.0
107.5°	303.6	312.3	363.2	406.1	414.7
110°	340.0	352.9	397.1	435.7	445.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	380.6	393.5	432.8	467.8	477.5
115°	439.3	454.4	491.0	520.4	527.9
117.5°	500.6	517.8	550.8	577.7	584.9
120°	545.5	562.1	593.3	618.9	624.9
122.5°	586.2	604.6	636.4	662.0	668.0
125°	651.0	672.1	702.6	726.6	732.7
127.5°	717.5	738.9	767.0	791.3	799.2
130°	764.9	784.5	808.8	834.5	843.5
132.5°	808.1	827.6	850.1	876.3	886.6
135°	877.3	896.9	914.3	937.6	948.2
137.5°	944.2	963.1	976.5	994.9	1008.2
140°	989.7	1006.3	1015.9	1033.1	1045.1
142.5°	1031.6	1048.1	1055.3	1070.0	1082.1
145°	1094.4	1107.9	1114.4	1122.4	1134.4
147.5°	1153.2	1166.4	1169.2	1176.1	1183.7
150°	1191.3	1203.4	1203.7	1206.9	1214.4
152.5°	1227.1	1237.9	1234.4	1236.5	1245.2
155°	1277.5	1285.1	1279.1	1280.8	1288.3
157.5°	1317.6	1325.1	1315.7	1318.6	1324.6
160°	1342.2	1349.7	1339.1	1340.8	1346.8
162.5°	1365.6	1370.7	1361.3	1359.3	1367.7
165°	1394.5	1400.5	1389.9	1385.5	1394.5
167.5°	1419.1	1425.2	1411.1	1406.4	1415.5
170°	1431.5	1437.5	1422.2	1416.3	1425.3
172.5°	1442.5	1448.6	1432.1	1424.8	1431.5
175°	1453.0	1459.0	1440.7	1434.5	1434.5
177.5°	1456.1	1459.7	1446.2	1440.2	1447.5
180°	1449.9	1449.9	1449.9	1449.9	1449.9

(END OF REPORT)