

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: P644391

Luminaire Tested: CRQ4DIP-SR4F0-75D100U840-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644391
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-SR4F0-75D100U840-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

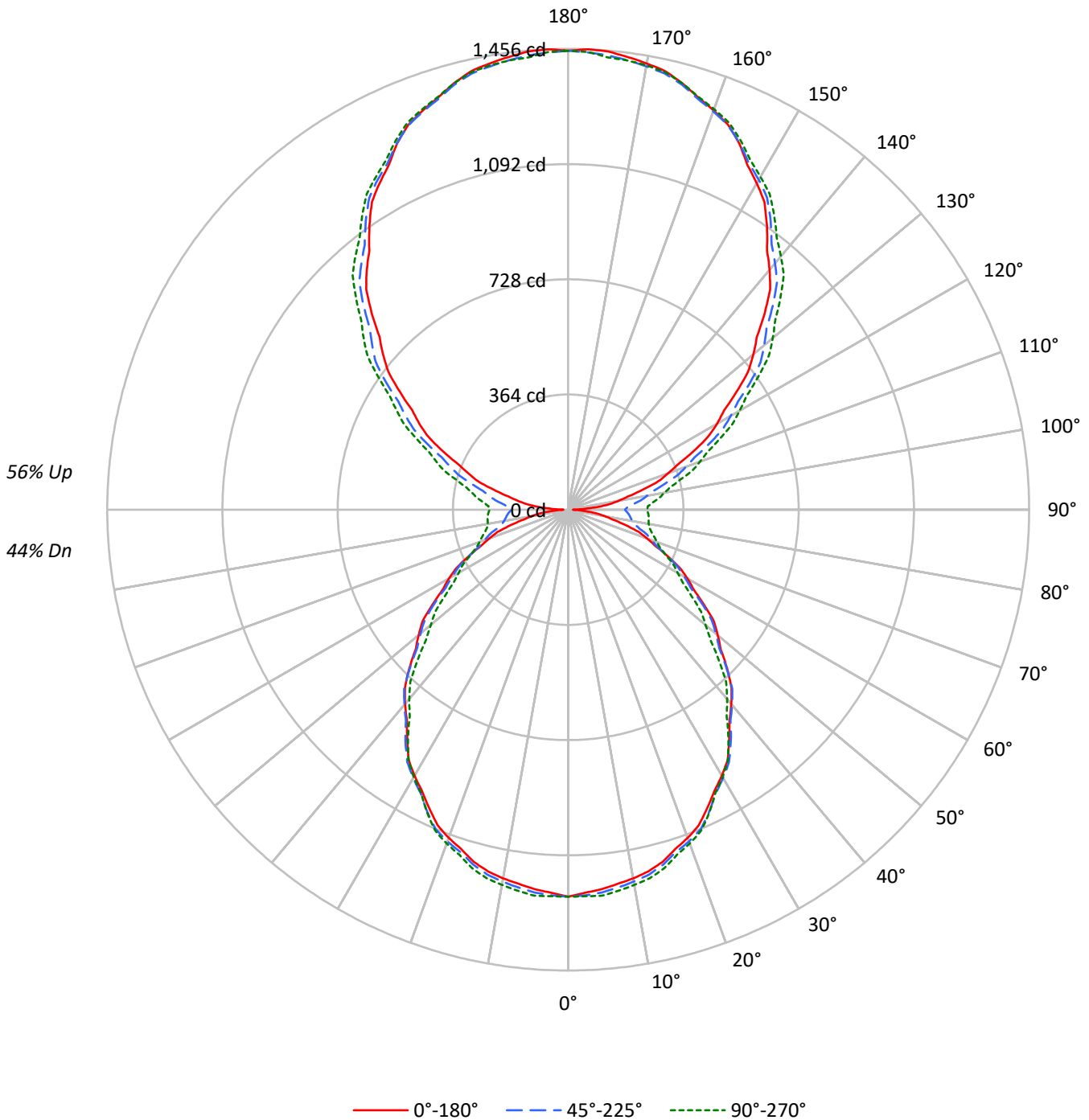
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7434.1 lumens
Efficiency: N/A
Efficacy: 146.3 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: General Diffuse

Input Watts (W): 50.8
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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	96	91	87	83	87	83	80	77	69	66	64	56	54	52	44	42	41	36
2	87	79	73	68	79	73	67	63	60	56	53	49	46	43	38	36	35	30
3	79	70	62	56	72	64	58	52	53	48	44	43	40	37	34	31	29	25
4	73	62	54	48	66	57	50	44	47	42	38	38	35	31	30	28	25	21
5	67	55	47	41	61	51	43	38	42	37	33	35	30	27	27	24	22	19
6	61	49	41	35	56	45	38	33	38	33	28	31	27	24	25	22	19	16
7	57	44	37	31	52	41	34	29	35	29	25	28	24	21	23	20	17	15
8	53	40	33	27	48	37	30	26	31	26	22	26	22	19	21	18	16	13
9	49	37	29	24	45	34	27	23	29	24	20	24	20	17	19	16	14	12
10	46	34	27	22	42	31	25	20	27	21	18	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19740	19740	19740
5°	19366	17430	16888
10°	19113	15527	14588
15°	18832	13905	12761
20°	18401	12475	11161
25°	17828	11124	9726
30°	17263	9860	8442
35°	16499	8690	7246
40°	15783	7583	6142
45°	14959	6519	5126
50°	14087	5551	4205
55°	13161	4663	3470
60°	12281	3855	2888
65°	11195	3171	2457
70°	10149	2619	2165
75°	8874	2252	2005
80°	7413	2045	1945
85°	5408	2010	1986

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°	115.4	1.6
10°-20°	327.7	4.4
20°-30°	483.9	6.5
30°-40°	557.0	7.5
40°-50°	540.6	7.3
50°-60°	456.5	6.1
60°-70°	345.7	4.6
70°-80°	247.7	3.3
80°-90°	190.7	2.6
90°-100°	210.8	2.8
100°-110°	329.5	4.4
110°-120°	482.9	6.5
120°-130°	623.9	8.4
130°-140°	705.5	9.5
140°-150°	697.0	9.4
150°-160°	589.5	7.9
160°-170°	392.5	5.3
170°-180°	137.3	1.8
0°-30°	927.1	12.5
0°-40°	1484.0	20.0
0°-60°	2481.2	33.4
0°-90°	3265.3	43.9
90°-120°	1023.2	13.8
90°-150°	3049.5	41.0
90°-180°	4169.0	56.1
0°-180°	7434.1	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	1172	1160	1164	1172	324
25°	1040	1059	1053	1048	1055	479
35°	886	904	896	882	882	555
45°	710	721	706	684	674	547
55°	523	536	514	484	475	469
65°	345	356	345	341	340	344
75°	186	198	235	264	272	199
85°	57	105	194	242	256	60
90°	16	85	179	231	248	14
95°	86	116	207	258	269	87
105°	244	254	315	359	367	260
115°	435	453	490	519	527	432
125°	649	671	702	727	733	581
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: P644391

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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	1219.7	1221.2	1222.6
5°	1203.6	1225.5	1214.0	1215.9	1224.3
7.5°	1192.5	1214.0	1204.1	1204.9	1214.7
10°	1182.9	1203.1	1193.1	1195.2	1203.6
12.5°	1170.4	1191.8	1180.8	1184.1	1192.5
15°	1151.8	1171.7	1160.2	1164.1	1172.5
17.5°	1124.2	1143.9	1133.3	1134.7	1143.2
20°	1103.4	1121.8	1115.3	1114.0	1122.4
22.5°	1078.6	1098.3	1093.2	1087.8	1097.6
25°	1039.6	1059.4	1053.4	1048.3	1055.1
27.5°	1000.9	1018.8	1009.3	1002.4	1007.4
30°	970.5	988.7	978.7	970.6	975.7
32.5°	937.3	956.7	945.6	936.0	938.4
35°	885.9	903.9	895.7	882.4	882.4
37.5°	837.2	852.0	841.8	825.7	822.0
40°	801.2	817.4	804.5	785.6	780.5
42.5°	763.9	780.1	767.1	745.5	737.7
45°	709.7	721.0	706.1	683.6	673.5
47.5°	653.8	666.6	646.6	621.4	609.2
50°	616.5	629.4	609.0	579.9	566.4
52.5°	580.6	592.0	570.5	539.8	528.8
55°	523.2	536.0	514.2	484.5	475.3
57.5°	469.7	482.1	458.7	437.8	429.3
60°	435.2	446.2	424.0	406.7	399.3
62.5°	396.5	408.8	389.2	379.7	374.8
65°	345.4	356.1	345.2	341.0	340.1
67.5°	297.4	306.4	304.1	311.4	314.0
70°	264.2	273.2	280.0	294.0	297.8
72.5°	233.8	242.7	261.0	280.4	285.5
75°	186.5	198.5	234.6	263.5	272.1
77.5°	145.1	158.6	215.3	251.8	262.5
80°	117.4	138.5	205.7	246.3	258.2
82.5°	92.6	121.1	199.0	244.7	256.6
85°	57.0	104.9	193.5	242.3	255.8
87.5°	28.1	92.9	186.7	237.5	252.9
90°	16.0	85.3	179.1	231.4	248.2
92.5°	42.4	93.4	187.8	238.8	252.1
95°	86.5	116.4	207.1	257.9	268.6
97.5°	130.0	148.7	232.8	280.0	290.5
100°	160.8	174.6	253.1	298.9	308.3
102.5°	193.9	204.0	277.2	320.5	331.0
105°	243.5	254.5	314.9	359.0	366.9
107.5°	298.7	310.6	361.6	403.0	411.0
110°	335.5	351.1	396.0	433.5	442.7

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	376.1	391.8	431.7	466.4	475.6
115°	435.4	452.7	489.8	519.3	526.8
117.5°	497.3	516.1	549.8	577.2	584.4
120°	542.7	560.4	592.8	618.9	624.9
122.5°	583.4	603.3	635.9	662.0	668.0
125°	648.8	671.0	702.1	726.6	732.7
127.5°	715.9	737.8	766.4	791.3	799.2
130°	763.8	783.4	808.3	834.5	843.5
132.5°	807.9	827.4	850.0	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)