

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: P907669

Luminaire Tested: DFN2DIP-4P3F0-030D060US840-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907669
REPORT IS A COMBINATION OF REPORTS P900592 AND P897473
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P3F0-030D060US840-RLLONL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

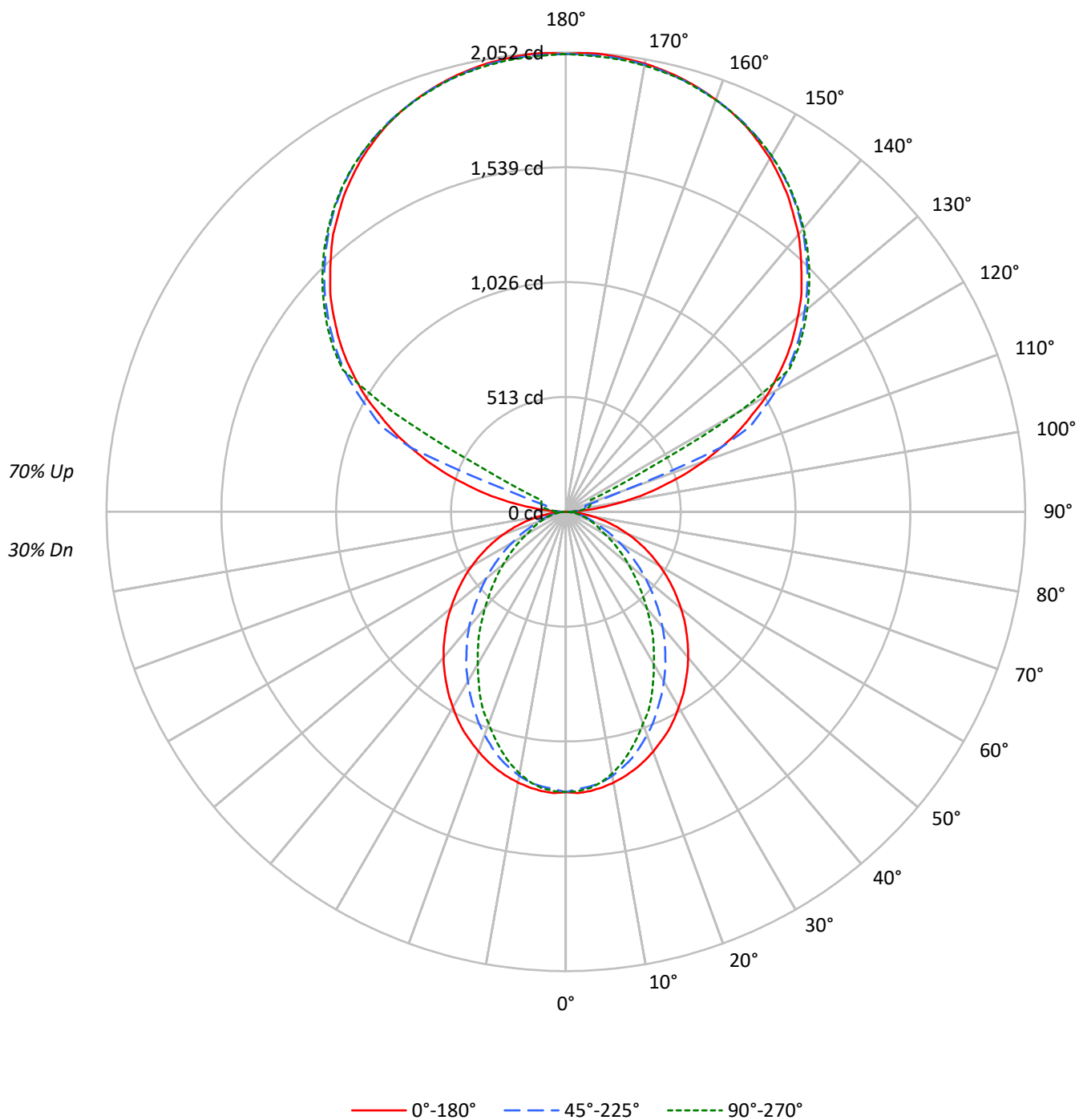
Lumens per Lamp: N/A
Luminaire Lumens: 8573.7 lumens
Efficiency: N/A
Efficacy: 117.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.07' x L: 3.07' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 73.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P907669

CATALOG NUMBER: DFN2DIP-4P3F0-030D060US840-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P907669

CATALOG NUMBER: DFN2DIP-4P3F0-030D060US840-RLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38
1	94	90	86	83	84	81	77	75	64	62	60	48	47	46	34	33	32
2	85	78	73	68	76	71	66	62	56	53	50	43	40	39	30	29	28
3	78	69	62	57	70	62	57	52	50	46	42	38	35	33	27	25	24
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21
5	66	55	47	41	59	49	43	38	40	35	31	30	27	25	22	20	18
6	60	49	41	36	54	44	38	33	36	31	27	28	24	22	20	18	16
7	56	44	37	31	50	40	34	29	32	28	24	25	22	19	18	16	15
8	52	40	33	28	46	36	30	25	29	25	21	23	20	17	17	15	13
9	48	37	29	25	43	33	27	23	27	22	19	21	18	15	16	13	12
10	45	33	27	22	40	30	24	20	25	20	17	20	16	14	14	12	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1427	1427	1427
5°	1428	1403	1413
10°	1413	1375	1366
15°	1393	1328	1295
20°	1366	1265	1207
25°	1339	1194	1123
30°	1303	1121	1016
35°	1267	1043	922
40°	1231	963	814
45°	1189	873	716
50°	1145	783	621
55°	1099	686	529
60°	1046	586	435
65°	985	484	391
70°	911	389	353
75°	818	341	320
80°	684	283	276
85°	464	184	205

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1397 cd/sqm

TEST NUMBER: P907669

CATALOG NUMBER: DFN2DIP-4P3F0-030D060US840-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.4	1.4
10°-20°	322.1	3.8
20°-30°	452.3	5.3
30°-40°	493.0	5.8
40°-50°	453.1	5.3
50°-60°	355.9	4.2
60°-70°	231.6	2.7
70°-80°	119.2	1.4
80°-90°	34.0	0.4
90°-100°	67.4	0.8
100°-110°	251.4	2.9
110°-120°	666.7	7.8
120°-130°	1105.7	12.9
130°-140°	1174.5	13.7
140°-150°	1091.6	12.7
150°-160°	877.6	10.2
160°-170°	565.5	6.6
170°-180°	194.6	2.3
0°-30°	891.8	10.4
0°-40°	1384.8	16.2
0°-60°	2193.8	25.6
0°-90°	2578.7	30.1
90°-120°	985.5	11.5
90°-150°	4357.2	50.8
90°-180°	5995.0	69.9
0°-180°	8573.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1252	1246	1232	1242	1238	119
15°	1191	1178	1140	1118	1107	336
25°	1081	1045	970	924	906	497
35°	932	874	774	703	678	583
45°	762	686	567	486	459	588
55°	579	491	368	300	279	517
65°	391	299	197	159	155	388
75°	208	129	91	83	82	220
85°	49	25	22	22	22	56
90°	1	18	30	37	40	8
95°	96	47	58	65	64	114
105°	450	494	90	106	112	481
115°	851	876	913	228	121	838
125°	1203	1222	1250	1261	1265	1073
135°	1489	1512	1526	1540	1537	1150
145°	1727	1725	1750	1761	1753	1080
155°	1901	1888	1906	1915	1903	876
165°	2004	1995	1999	2009	1999	566
175°	2049	2039	2042	2052	2038	195
180°	2045	2045	2045	2045	2045	

TEST NUMBER: P907669

CATALOG NUMBER: DFN2DIP-4P3F0-030D060US840-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.1	1252.1	1252.1	1252.1	1252.1
2.5°	1257.8	1252.1	1239.6	1251.0	1248.8
5°	1252.1	1246.5	1231.7	1241.9	1238.5
7.5°	1241.9	1235.2	1219.3	1223.8	1218.1
10°	1228.3	1220.4	1197.8	1194.3	1187.6
12.5°	1211.3	1201.1	1170.5	1163.8	1151.2
15°	1190.9	1178.4	1139.9	1118.4	1107.1
17.5°	1167.1	1149.0	1101.4	1076.5	1058.3
20°	1139.9	1117.2	1060.6	1032.4	1007.3
22.5°	1110.5	1084.4	1018.7	980.2	963.2
25°	1081.1	1044.7	970.0	923.5	906.5
27.5°	1045.9	1007.3	924.6	871.4	845.3
30°	1008.6	965.4	874.7	817.1	786.4
32.5°	972.2	920.1	827.3	759.2	730.8
35°	931.5	873.6	774.0	702.6	677.6
37.5°	891.8	829.4	724.1	645.8	617.6
40°	849.9	781.9	672.0	591.5	562.1
42.5°	806.8	734.4	619.9	535.9	507.7
45°	761.5	685.5	566.6	486.0	458.9
47.5°	718.4	638.0	515.6	435.1	410.2
50°	670.9	590.4	465.7	387.5	363.8
52.5°	624.3	539.4	418.2	343.4	321.8
55°	579.0	490.6	368.2	300.3	278.8
57.5°	532.6	441.9	324.2	260.6	242.5
60°	484.9	394.4	277.6	219.8	201.8
62.5°	438.6	347.9	237.9	183.6	174.6
65°	390.9	299.1	197.1	158.6	155.2
67.5°	345.7	253.8	158.6	139.4	135.9
70°	298.0	209.6	131.4	120.1	115.5
72.5°	252.7	168.7	109.9	100.9	98.6
75°	208.4	129.2	90.7	82.7	81.6
77.5°	164.3	91.7	71.4	66.9	64.5
80°	123.5	65.7	54.3	49.9	49.9
82.5°	86.0	44.2	37.4	35.1	35.1
85°	48.7	24.8	21.5	21.5	21.5
87.5°	18.2	9.0	9.0	8.0	8.0
90°	1.4	17.8	29.5	37.1	39.9
92.5°	37.1	31.1	35.4	38.5	39.9
95°	96.1	47.3	57.7	65.2	63.6
97.5°	173.1	51.8	75.3	80.0	81.4
100°	262.0	59.2	84.3	96.1	99.1
102.5°	359.5	356.7	87.4	103.5	108.1
105°	449.8	494.2	90.3	106.4	112.5
107.5°	554.9	591.8	93.3	109.5	115.4
110°	655.6	686.5	259.0	111.1	116.8

TEST NUMBER: P907669

CATALOG NUMBER: DFN2DIP-4P3F0-030D060US840-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	750.2	776.8	751.6	113.8	118.5
115°	850.8	876.0	913.0	227.9	121.4
117.5°	938.1	967.7	992.9	781.2	393.5
120°	1035.8	1057.9	1084.7	1102.4	902.6
122.5°	1118.5	1142.3	1171.9	1180.7	1182.4
125°	1203.0	1222.2	1250.3	1260.7	1265.1
127.5°	1279.9	1300.6	1322.9	1337.7	1339.1
130°	1352.4	1376.1	1392.3	1408.7	1407.2
132.5°	1426.4	1445.7	1461.9	1475.2	1473.8
135°	1488.6	1512.4	1525.5	1540.4	1537.4
137.5°	1553.6	1571.4	1586.3	1601.0	1596.7
140°	1617.2	1629.2	1645.4	1658.7	1651.3
142.5°	1670.6	1681.0	1700.2	1711.9	1704.6
145°	1726.9	1725.3	1750.4	1760.8	1753.4
147.5°	1775.5	1771.1	1796.2	1803.6	1797.9
150°	1823.0	1812.6	1836.3	1845.1	1837.8
152.5°	1862.9	1851.1	1873.2	1882.2	1871.8
155°	1901.4	1888.1	1905.9	1914.7	1902.9
157.5°	1932.5	1920.7	1934.0	1944.4	1932.5
160°	1959.1	1950.2	1959.1	1967.9	1957.6
162.5°	1982.7	1973.9	1981.3	1991.7	1978.3
165°	2003.5	1994.7	1999.0	2009.4	1999.0
167.5°	2019.7	2010.8	2015.4	2025.8	2012.4
170°	2033.2	2024.2	2027.2	2037.5	2024.2
172.5°	2041.9	2033.2	2036.1	2046.5	2033.2
175°	2049.3	2038.9	2041.9	2052.2	2037.5
177.5°	2052.2	2041.9	2043.5	2053.9	2040.5
180°	2044.9	2044.9	2044.9	2044.9	2044.9

TEST NUMBER: P907669

CATALOG NUMBER: DFN2DIP-4P3F0-030D060US840-RLONL

CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	6.13	6.82	7.24	7.92	9.46	2.09	2.78	3.20	3.88	5.42
	3H	7.79	8.41	8.91	9.52	11.07	3.26	3.88	4.38	4.99	6.54
	4H	8.39	8.97	9.52	10.09	11.64	3.70	4.28	4.83	5.40	6.95
	6H	8.80	9.34	9.94	10.46	12.02	4.01	4.54	5.15	5.66	7.23
	8H	8.92	9.43	10.06	10.57	12.12	4.09	4.60	5.23	5.74	7.29
	12H	8.97	9.46	10.12	10.59	12.17	4.13	4.61	5.27	5.74	7.32
4H	2H	6.13	6.71	7.27	7.83	9.38	2.66	3.25	3.80	4.36	5.92
	3H	7.94	8.42	9.08	9.57	11.13	3.99	4.48	5.14	5.62	7.19
	4H	8.62	9.07	9.77	10.20	11.79	4.53	4.98	5.68	6.11	7.70
	6H	9.12	9.51	10.28	10.66	12.24	4.94	5.32	6.09	6.47	8.05
	8H	9.29	9.65	10.45	10.80	12.39	5.06	5.42	6.21	6.56	8.15
	12H	9.38	9.70	10.55	10.86	12.46	5.11	5.44	6.28	6.59	8.19
8H	4H	8.58	8.93	9.73	10.08	11.67	4.80	5.16	5.95	6.30	7.89
	6H	9.13	9.43	10.31	10.61	12.20	5.30	5.60	6.48	6.79	8.37
	8H	9.34	9.60	10.52	10.77	12.38	5.49	5.74	6.67	6.91	8.52
	12H	9.47	9.70	10.66	10.86	12.51	5.60	5.82	6.78	6.99	8.63
12H	4H	8.52	8.85	9.69	10.00	11.60	4.79	5.12	5.97	6.28	7.87
	6H	9.11	9.36	10.29	10.53	12.14	5.35	5.61	6.53	6.77	8.38
	8H	9.32	9.54	10.50	10.71	12.35	5.55	5.77	6.73	6.94	8.58

END OF REPORT