

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: P922061

Luminaire Tested: DFN2DIP-PN3F0-030D070US940-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P922061
REPORT IS A COMBINATION OF REPORTS P901087 AND P897955
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-030D070US940-FLLONL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

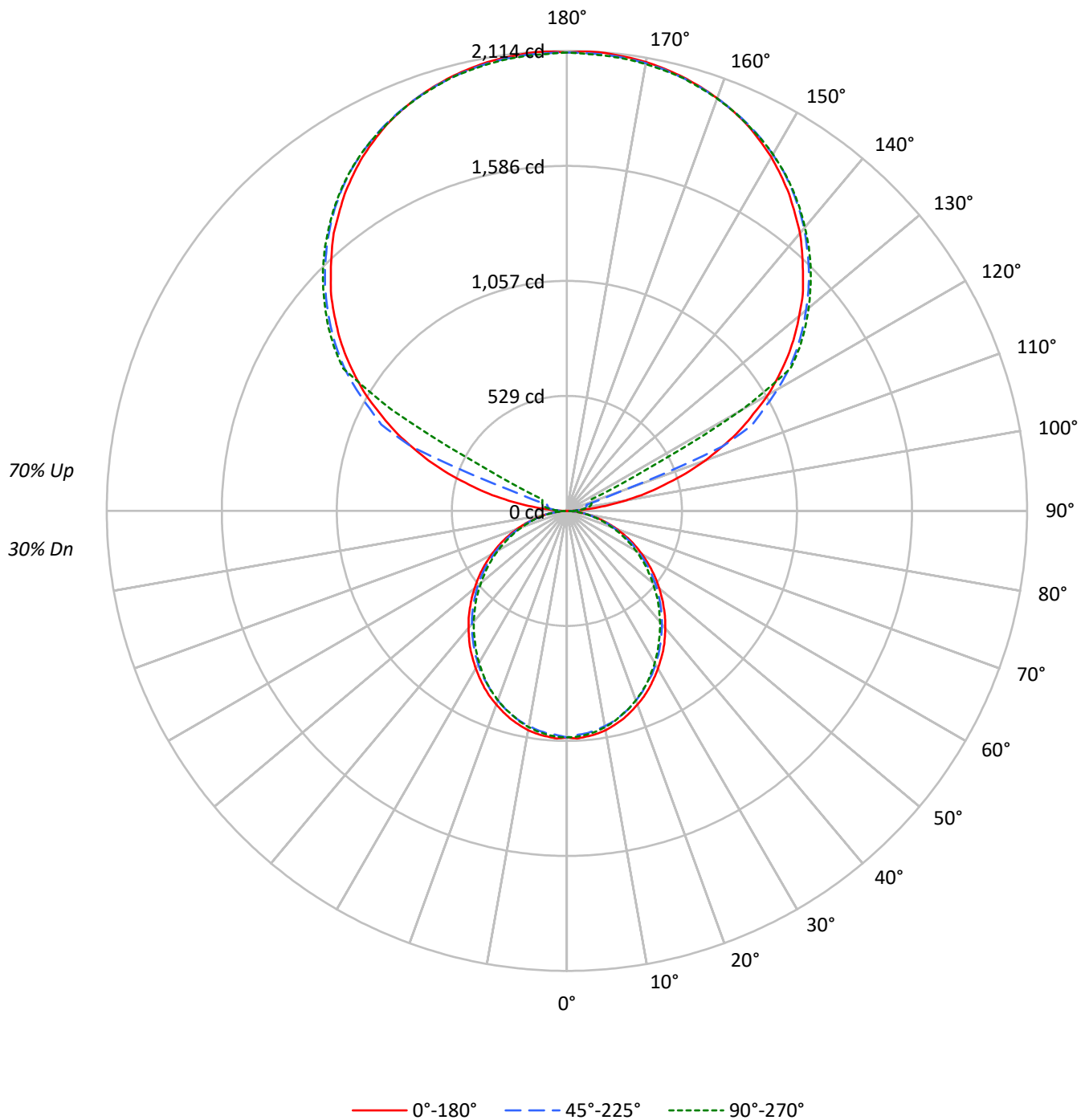
Lumens per Lamp: N/A
Luminaire Lumens: 8828.0 lumens
Efficiency: N/A
Efficacy: 112.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 78.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P922061

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US940-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P922061

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US940-FLLONL

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	93	89	85	82	84	80	77	74	63	61	59	48	46	45	33	33	32
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	29	28	27
3	77	68	61	56	69	62	56	51	49	45	41	37	34	32	26	24	23
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20
5	65	54	46	40	58	48	42	37	39	34	30	29	26	23	21	19	17
6	60	48	40	35	53	43	37	32	35	30	26	27	23	20	19	17	15
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13
8	51	39	32	26	46	35	29	24	28	24	20	22	19	16	16	14	12
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11
10	44	32	26	21	40	30	23	19	24	19	16	19	15	13	14	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1217	1217	1217
5°	1218	1199	1207
10°	1207	1182	1191
15°	1189	1162	1164
20°	1164	1134	1138
25°	1140	1101	1107
30°	1109	1070	1068
35°	1080	1033	1027
40°	1044	997	988
45°	1008	960	947
50°	969	921	901
55°	929	876	858
60°	882	823	809
65°	832	768	751
70°	767	700	689
75°	678	620	630
80°	570	516	520
85°	402	342	339

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1422 cd/sqm

TEST NUMBER: P922061

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US940-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.0	1.1
10°-20°	275.6	3.1
20°-30°	405.1	4.6
30°-40°	470.5	5.3
40°-50°	469.9	5.3
50°-60°	409.8	4.6
60°-70°	302.9	3.4
70°-80°	171.4	1.9
80°-90°	48.9	0.6
90°-100°	69.5	0.8
100°-110°	259.0	2.9
110°-120°	686.8	7.8
120°-130°	1139.1	12.9
130°-140°	1209.9	13.7
140°-150°	1124.5	12.7
150°-160°	904.1	10.2
160°-170°	582.6	6.6
170°-180°	200.5	2.3
0°-30°	778.7	8.8
0°-40°	1249.2	14.2
0°-60°	2128.9	24.1
0°-90°	2652.1	30.0
90°-120°	1015.2	11.5
90°-150°	4488.7	50.8
90°-180°	6176.0	70.0
0°-180°	8828.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1041	1041	1041	1041	1041	
5°	1041	1037	1026	1034	1032	99
15°	991	985	972	976	971	279
25°	897	889	872	874	872	413
35°	774	764	748	742	737	483
45°	630	623	608	597	592	486
55°	476	470	458	446	442	426
65°	321	315	305	296	291	318
75°	168	166	161	155	157	179
85°	41	40	39	36	35	46
90°	1	18	30	38	41	8
95°	99	49	59	67	66	117
105°	463	509	93	110	116	495
115°	876	902	940	235	125	863
125°	1239	1259	1288	1299	1303	1105
135°	1534	1558	1572	1587	1584	1185
145°	1779	1777	1803	1814	1806	1113
155°	1959	1945	1963	1972	1960	903
165°	2064	2055	2059	2070	2059	583
175°	2111	2100	2104	2114	2099	201
180°	2107	2107	2107	2107	2107	

TEST NUMBER: P922061

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US940-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1040.9	1040.9	1040.9	1040.9	1040.9
2.5°	1047.0	1042.0	1030.9	1040.9	1039.0
5°	1040.9	1037.0	1025.9	1033.9	1032.0
7.5°	1033.9	1028.0	1016.9	1025.0	1023.0
10°	1023.0	1015.9	1004.0	1011.9	1009.0
12.5°	1007.9	1001.9	990.0	994.9	992.9
15°	990.9	985.0	971.9	975.9	970.9
17.5°	969.8	963.9	950.8	955.8	950.8
20°	946.8	940.8	926.8	929.8	925.9
22.5°	923.9	914.9	901.8	901.8	899.7
25°	896.8	888.9	871.8	873.8	871.8
27.5°	866.7	859.7	846.8	843.8	838.8
30°	836.8	828.8	813.8	810.7	806.7
32.5°	804.8	798.8	782.7	776.7	772.7
35°	773.7	763.7	747.7	741.6	736.6
37.5°	738.7	729.7	713.6	706.6	701.6
40°	702.7	694.6	678.6	669.7	665.7
42.5°	667.6	659.6	643.6	633.6	627.6
45°	629.6	622.6	607.5	596.6	592.5
47.5°	592.5	585.6	569.5	558.5	552.5
50°	553.5	548.5	534.5	520.5	515.5
52.5°	515.5	508.5	495.5	484.5	477.4
55°	476.5	470.5	458.4	446.5	441.5
57.5°	437.4	432.4	419.4	407.3	403.3
60°	398.3	394.4	380.4	369.3	366.4
62.5°	360.3	353.3	343.3	333.3	329.3
65°	321.4	315.3	305.3	296.3	291.3
67.5°	281.3	276.3	267.2	260.3	256.3
70°	244.2	240.2	231.2	224.2	220.3
72.5°	206.3	202.2	197.2	190.2	187.3
75°	168.1	166.2	161.1	155.2	157.2
77.5°	134.1	130.1	128.0	125.1	122.2
80°	100.1	99.1	97.0	94.1	92.1
82.5°	68.0	68.0	67.1	63.0	63.0
85°	41.0	40.0	39.1	36.0	35.0
87.5°	18.0	16.1	14.0	11.1	10.0
90°	1.4	18.3	30.4	38.2	41.1
92.5°	38.2	32.0	36.6	39.7	41.1
95°	99.0	48.7	59.4	67.1	65.5
97.5°	178.3	53.4	77.7	82.4	83.8
100°	269.9	61.0	86.9	99.0	102.1
102.5°	370.3	367.5	90.0	106.6	111.3
105°	463.4	509.2	93.0	109.7	115.8
107.5°	571.6	609.7	96.1	112.8	119.0
110°	675.4	707.2	266.8	114.4	120.4

TEST NUMBER: P922061

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US940-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	772.9	800.2	774.4	117.3	122.0
115°	876.5	902.3	940.5	234.8	125.1
117.5°	966.4	996.8	1022.9	804.8	405.5
120°	1067.0	1089.8	1117.4	1135.7	929.9
122.5°	1152.3	1176.7	1207.4	1216.4	1218.0
125°	1239.2	1259.1	1288.1	1298.8	1303.2
127.5°	1318.5	1339.8	1362.8	1378.0	1379.5
130°	1393.2	1417.6	1434.3	1451.2	1449.7
132.5°	1469.4	1489.3	1506.0	1519.7	1518.3
135°	1533.5	1557.9	1571.6	1586.9	1583.9
137.5°	1600.4	1618.8	1634.1	1649.4	1644.8
140°	1666.0	1678.3	1695.0	1708.7	1701.1
142.5°	1721.0	1731.7	1751.4	1763.5	1756.0
145°	1779.0	1777.4	1803.2	1813.9	1806.3
147.5°	1829.1	1824.6	1850.5	1858.1	1852.1
150°	1877.9	1867.3	1891.8	1900.8	1893.2
152.5°	1919.0	1906.9	1929.8	1938.9	1928.3
155°	1958.7	1945.1	1963.4	1972.5	1960.3
157.5°	1990.7	1978.6	1992.3	2003.0	1990.7
160°	2018.3	2009.0	2018.3	2027.3	2016.6
162.5°	2042.6	2033.5	2041.0	2051.7	2038.0
165°	2063.9	2054.9	2059.3	2070.0	2059.3
167.5°	2080.7	2071.4	2076.2	2086.9	2073.1
170°	2094.4	2085.3	2088.3	2099.0	2085.3
172.5°	2103.5	2094.4	2097.6	2108.2	2094.4
175°	2111.1	2100.4	2103.5	2114.2	2099.0
177.5°	2114.2	2103.5	2105.1	2115.9	2102.0
180°	2106.6	2106.6	2106.6	2106.6	2106.6

TEST NUMBER: P922061

CATALOG NUMBER: DFN2DIP-PN3F0-030D070US940-FLONL

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	5.71	6.41	6.82	7.52	9.05	5.27	5.97	6.38	7.08	8.61
	3H	7.35	7.98	8.47	9.10	10.64	6.87	7.50	7.99	8.61	10.16
	4H	7.93	8.53	9.06	9.64	11.19	7.44	8.04	8.57	9.16	10.71
	6H	8.31	8.87	9.45	9.98	11.55	7.82	8.38	8.96	9.50	11.06
	8H	8.41	8.94	9.55	10.07	11.63	7.92	8.45	9.06	9.58	11.14
	12H	8.45	8.95	9.60	10.08	11.66	7.95	8.45	9.10	9.58	11.16
4H	2H	6.15	6.75	7.28	7.86	9.41	5.79	6.39	6.93	7.51	9.06
	3H	7.99	8.49	9.13	9.63	11.20	7.59	8.09	8.73	9.23	10.80
	4H	8.69	9.15	9.84	10.28	11.87	8.28	8.74	9.42	9.87	11.45
	6H	9.19	9.59	10.35	10.74	12.32	8.77	9.17	9.92	10.32	11.90
	8H	9.34	9.71	10.49	10.85	12.44	8.91	9.28	10.06	10.42	12.02
	12H	9.40	9.73	10.57	10.89	12.49	8.96	9.30	10.13	10.45	12.05
8H	4H	8.87	9.24	10.02	10.39	11.98	8.50	8.87	9.65	10.02	11.61
	6H	9.49	9.79	10.66	10.98	12.57	9.12	9.42	10.29	10.61	12.20
	8H	9.70	9.97	10.88	11.14	12.75	9.32	9.59	10.50	10.75	12.36
	12H	9.82	10.06	11.01	11.22	12.86	9.43	9.66	10.61	10.82	12.46
12H	4H	8.85	9.18	10.02	10.34	11.94	8.49	8.82	9.66	9.98	11.58
	6H	9.52	9.78	10.69	10.95	12.56	9.15	9.42	10.33	10.59	12.19
	8H	9.75	9.98	10.93	11.14	12.79	9.38	9.61	10.56	10.77	12.41

END OF REPORT