

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: P905941

Luminaire Tested: DFN2DIP-PN4F0-050D120US835-FLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905941
REPORT IS A COMBINATION OF REPORTS P901275 AND P898053
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN4F0-050D120US835-FLLONL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

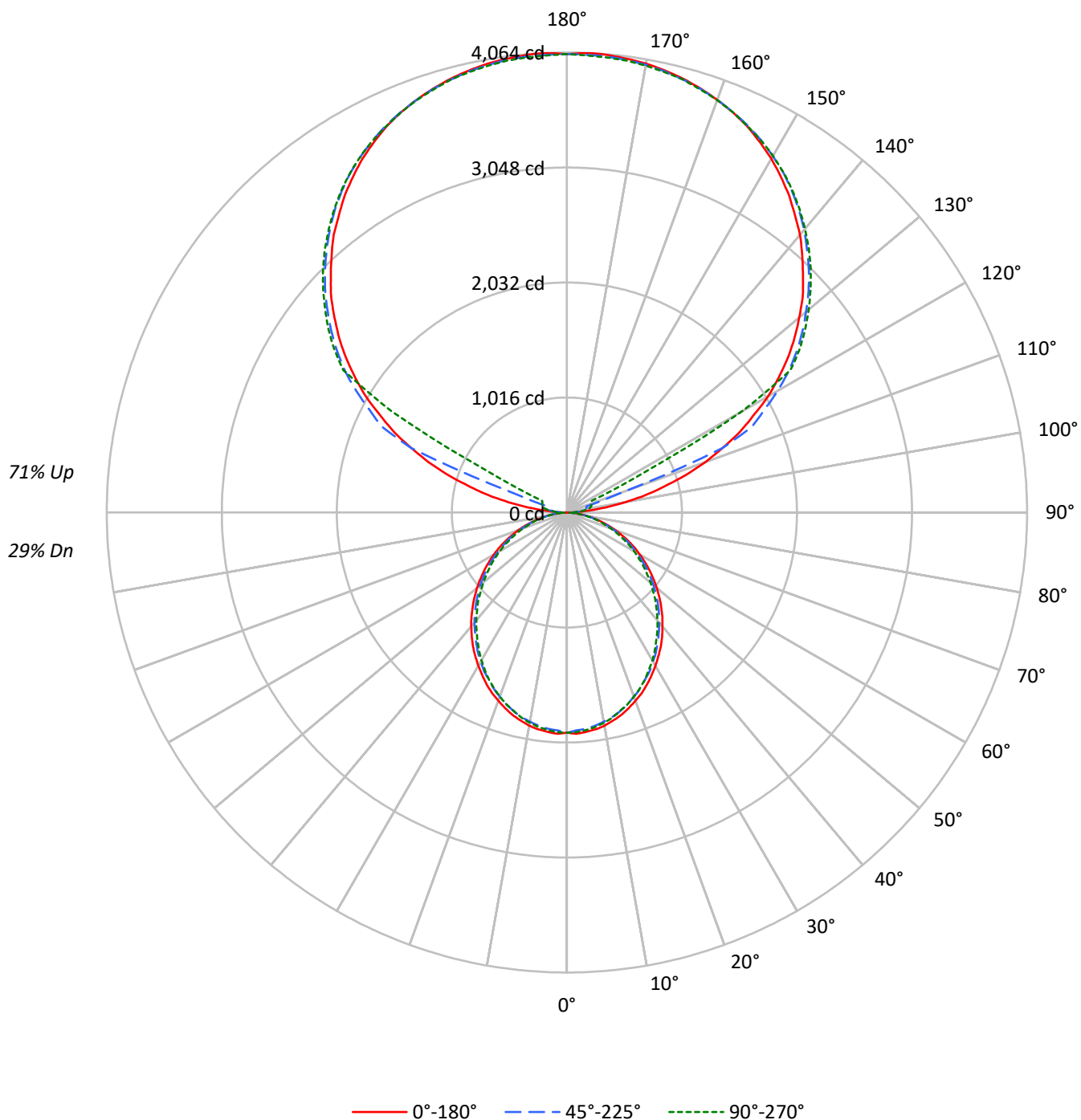
Lumens per Lamp: N/A
Luminaire Lumens: 16830.0 lumens
Efficiency: N/A
Efficacy: 114.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 3.74' x L: 3.94' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 147.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905941

CATALOG NUMBER: DFN2DIP-PN4F0-050D120US835-FLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P905941

CATALOG NUMBER: DFN2DIP-PN4F0-050D120US835-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	37	37	37
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	28	26
3	77	68	61	56	69	61	55	51	49	44	41	37	34	32	26	24	22
4	71	60	53	47	63	54	48	43	43	38	35	33	29	27	23	21	19
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	21	19	17
6	60	48	40	34	53	43	36	32	35	30	26	26	23	20	19	16	15
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13
8	51	39	32	26	46	35	29	24	28	23	20	22	18	16	16	13	12
9	47	35	28	23	42	32	26	22	26	21	18	20	17	14	14	12	11
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1420	1420	1420
5°	1422	1401	1410
10°	1411	1382	1391
15°	1390	1359	1362
20°	1362	1328	1331
25°	1334	1290	1296
30°	1299	1255	1252
35°	1266	1214	1204
40°	1225	1172	1160
45°	1185	1131	1114
50°	1140	1087	1060
55°	1094	1036	1011
60°	1041	976	956
65°	984	913	889
70°	911	837	819
75°	809	747	754
80°	688	631	628
85°	497	430	420

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 2160 cd/sqm

TEST NUMBER: P905941

CATALOG NUMBER: DFN2DIP-PN4F0-050D120US835-FLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	1.1
10°-20°	515.2	3.1
20°-30°	757.2	4.5
30°-40°	879.4	5.2
40°-50°	878.3	5.2
50°-60°	765.8	4.6
60°-70°	566.1	3.4
70°-80°	320.3	1.9
80°-90°	91.7	0.5
90°-100°	133.5	0.8
100°-110°	497.8	3.0
110°-120°	1320.3	7.8
120°-130°	2189.8	13.0
130°-140°	2326.1	13.8
140°-150°	2161.8	12.8
150°-160°	1738.1	10.3
160°-170°	1119.9	6.7
170°-180°	385.5	2.3
0°-30°	1455.5	8.6
0°-40°	2334.9	13.9
0°-60°	3979.0	23.6
0°-90°	4957.1	29.5
90°-120°	1951.7	11.6
90°-150°	8629.4	51.3
90°-180°	11873.0	70.5
0°-180°	16830.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1946	1946	1946	1946	1946	
5°	1946	1938	1918	1932	1929	185
15°	1852	1841	1816	1824	1815	522
25°	1676	1661	1630	1633	1630	771
35°	1446	1428	1398	1386	1377	903
45°	1177	1164	1136	1115	1108	908
55°	891	879	857	834	825	796
65°	601	589	571	554	544	594
75°	314	311	301	290	294	335
85°	77	75	73	67	66	85
90°	3	35	58	73	79	15
95°	190	94	114	129	126	225
105°	891	979	179	211	223	952
115°	1685	1735	1808	451	240	1659
125°	2382	2421	2476	2497	2506	2125
135°	2948	2995	3021	3051	3045	2277
145°	3420	3417	3467	3487	3472	2139
155°	3766	3739	3775	3792	3769	1735
165°	3968	3950	3959	3980	3959	1121
175°	4058	4038	4044	4064	4035	386
180°	4050	4050	4050	4050	4050	

TEST NUMBER: P905941

CATALOG NUMBER: DFN2DIP-PN4F0-050D120US835-FLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1945.5	1945.5	1945.5	1945.5	1945.5
2.5°	1956.8	1947.5	1926.9	1945.5	1942.0
5°	1945.5	1938.2	1917.5	1932.4	1928.9
7.5°	1932.4	1921.3	1900.7	1915.8	1912.0
10°	1912.0	1898.9	1876.5	1891.3	1885.8
12.5°	1883.8	1872.7	1850.3	1859.6	1855.8
15°	1852.0	1840.9	1816.5	1824.1	1814.7
17.5°	1812.7	1801.6	1777.2	1786.5	1777.2
20°	1769.7	1758.6	1732.4	1737.9	1730.6
22.5°	1726.8	1709.9	1685.5	1685.5	1681.7
25°	1676.2	1661.3	1629.5	1633.1	1629.5
27.5°	1620.0	1606.9	1582.7	1577.1	1567.8
30°	1564.0	1549.0	1521.0	1515.4	1507.9
32.5°	1504.1	1493.0	1463.0	1451.7	1444.2
35°	1446.1	1427.5	1397.5	1386.2	1376.9
37.5°	1380.6	1363.8	1333.8	1320.7	1311.4
40°	1313.4	1298.3	1268.3	1251.6	1244.1
42.5°	1247.9	1232.8	1203.0	1184.1	1173.0
45°	1176.8	1163.7	1135.5	1115.1	1107.5
47.5°	1107.5	1094.4	1064.5	1043.8	1032.7
50°	1034.5	1025.2	999.0	972.8	963.4
52.5°	963.4	950.3	926.1	905.5	892.4
55°	890.6	879.3	856.8	834.4	825.1
57.5°	817.5	808.2	783.8	761.4	753.8
60°	744.5	737.2	711.0	690.3	684.8
62.5°	673.5	660.4	641.7	623.0	615.5
65°	600.6	589.3	570.6	553.8	544.4
67.5°	525.8	516.3	499.6	486.5	478.9
70°	456.5	449.0	432.1	419.0	411.7
72.5°	385.5	377.9	368.6	355.5	349.9
75°	314.2	310.6	301.1	290.0	293.8
77.5°	250.7	243.1	239.4	233.8	228.3
80°	187.2	185.2	181.4	175.9	172.1
82.5°	127.2	127.2	125.4	117.9	117.9
85°	76.6	74.8	73.0	67.3	65.5
87.5°	33.7	30.0	26.2	20.6	18.7
90°	2.8	35.1	58.5	73.4	79.0
92.5°	73.4	61.6	70.3	76.2	79.0
95°	190.3	93.6	114.1	129.1	126.0
97.5°	342.8	102.7	149.3	158.3	161.1
100°	518.8	117.3	167.0	190.3	196.3
102.5°	712.0	706.4	172.9	205.0	214.0
105°	890.8	978.9	178.9	210.9	222.7
107.5°	1098.9	1172.0	184.8	216.8	228.6
110°	1298.3	1359.6	512.9	219.9	231.4

TEST NUMBER: P905941

CATALOG NUMBER: DFN2DIP-PN4F0-050D120US835-FLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1485.9	1538.4	1488.7	225.5	234.5
115°	1684.9	1734.7	1808.1	451.3	240.5
117.5°	1857.9	1916.4	1966.5	1547.1	779.5
120°	2051.4	2095.2	2148.1	2183.3	1787.6
122.5°	2215.3	2262.3	2321.1	2338.5	2341.6
125°	2382.3	2420.6	2476.3	2496.8	2505.5
127.5°	2534.7	2575.8	2620.0	2649.2	2652.0
130°	2678.4	2725.4	2757.4	2789.8	2787.0
132.5°	2824.9	2863.2	2895.2	2921.7	2918.9
135°	2948.1	2995.1	3021.2	3050.8	3044.9
137.5°	3076.9	3112.0	3141.6	3170.8	3162.1
140°	3202.9	3226.5	3258.5	3285.0	3270.4
142.5°	3308.6	3329.2	3367.1	3390.4	3375.8
145°	3420.0	3416.9	3466.6	3487.2	3472.5
147.5°	3516.4	3507.7	3557.5	3572.1	3560.6
150°	3610.3	3589.8	3636.8	3654.2	3639.6
152.5°	3689.3	3666.0	3709.9	3727.6	3707.1
155°	3765.5	3739.4	3774.6	3792.0	3768.7
157.5°	3827.1	3803.8	3830.3	3850.8	3827.1
160°	3880.0	3862.3	3880.0	3897.4	3876.9
162.5°	3926.7	3909.3	3923.9	3944.4	3918.0
165°	3967.7	3950.3	3959.0	3979.6	3959.0
167.5°	4000.1	3982.3	3991.4	4011.9	3985.5
170°	4026.5	4008.8	4014.7	4035.2	4008.8
172.5°	4043.9	4026.5	4032.5	4053.0	4026.5
175°	4058.5	4038.0	4043.9	4064.5	4035.2
177.5°	4064.5	4043.9	4047.1	4067.6	4041.2
180°	4049.9	4049.9	4049.9	4049.9	4049.9

TEST NUMBER: P905941

CATALOG NUMBER: DFN2DIP-PN4F0-050D120US835-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	6.21	6.91	7.32	8.02	9.56	5.77	6.47	6.88	7.58	9.12
	3H	7.86	8.49	8.98	9.61	11.16	7.38	8.00	8.50	9.12	10.68
	4H	8.44	9.04	9.58	10.16	11.72	7.95	8.55	9.09	9.67	11.23
	6H	8.84	9.39	9.98	10.51	12.08	8.34	8.89	9.49	10.02	11.59
	8H	8.94	9.46	10.08	10.60	12.16	8.44	8.97	9.59	10.10	11.67
	12H	8.98	9.48	10.13	10.61	12.19	8.48	8.98	9.63	10.11	11.70
4H	2H	6.65	7.25	7.79	8.37	9.93	6.30	6.90	7.44	8.02	9.58
	3H	8.51	9.00	9.65	10.15	11.72	8.10	8.60	9.25	9.75	11.32
	4H	9.22	9.67	10.36	10.81	12.40	8.80	9.26	9.95	10.39	11.98
	6H	9.72	10.12	10.88	11.27	12.86	9.30	9.69	10.46	10.85	12.43
	8H	9.87	10.24	11.03	11.39	12.98	9.44	9.81	10.60	10.96	12.56
	12H	9.94	10.27	11.11	11.43	13.03	9.50	9.83	10.67	10.99	12.59
8H	4H	9.40	9.77	10.55	10.91	12.51	9.03	9.40	10.18	10.54	12.14
	6H	10.03	10.33	11.20	11.52	13.12	9.65	9.95	10.83	11.14	12.74
	8H	10.25	10.51	11.43	11.68	13.30	9.86	10.13	11.04	11.30	12.91
	12H	10.37	10.61	11.56	11.77	13.42	9.97	10.20	11.16	11.37	13.02
12H	4H	9.38	9.71	10.55	10.87	12.47	9.01	9.35	10.19	10.51	12.11
	6H	10.06	10.32	11.24	11.49	13.10	9.69	9.96	10.87	11.12	12.74
	8H	10.29	10.52	11.48	11.69	13.34	9.92	10.15	11.10	11.32	12.97

END OF REPORT