

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: P930714

Luminaire Tested: DFN2DS-PN4F0-080DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN4F0-080DS927-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

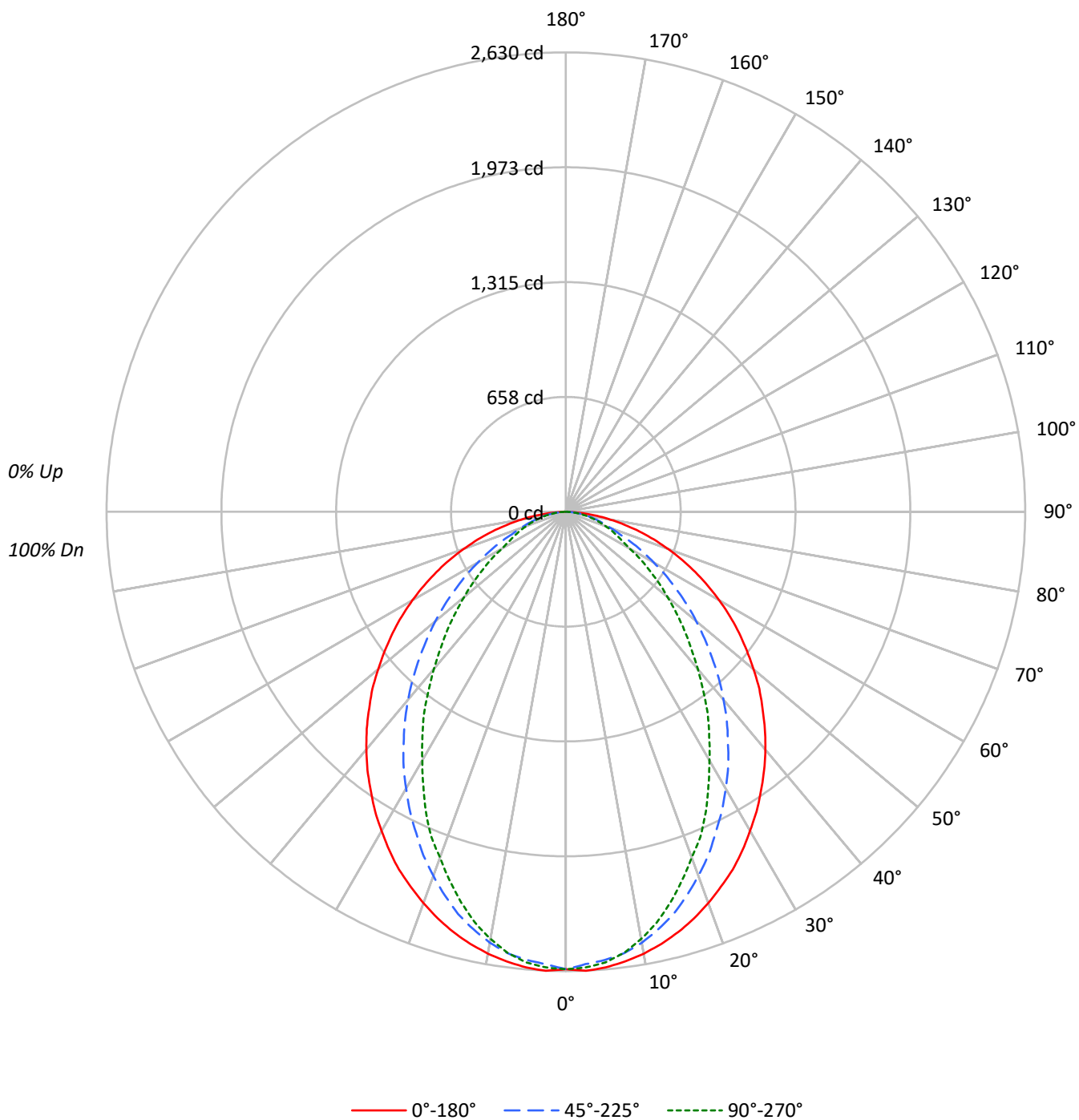
Lumens per Lamp: N/A
Luminaire Lumens: 5385.6 lumens
Efficiency: N/A
Efficacy: 65.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 81.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9971
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930714

CATALOG NUMBER: DFN2DS-PN4F0-080DS927-RLL

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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1912	1912	1912
5°	1919	1887	1898
10°	1904	1857	1841
15°	1882	1802	1750
20°	1852	1723	1636
25°	1821	1634	1527
30°	1778	1542	1386
35°	1736	1442	1263
40°	1694	1339	1120
45°	1644	1223	991
50°	1593	1106	864
55°	1541	980	742
60°	1481	847	616
65°	1412	712	561
70°	1330	586	516
75°	1230	535	482
80°	1085	478	438
85°	853	377	377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1644 cd/sqm

TEST NUMBER: P930714

CATALOG NUMBER: DFN2DS-PN4F0-080DS927-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.4	4.6
10°-20°	673.7	12.5
20°-30°	945.9	17.6
30°-40°	1031.1	19.1
40°-50°	947.7	17.6
50°-60°	744.3	13.8
60°-70°	484.4	9.0
70°-80°	249.4	4.6
80°-90°	63.7	1.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1865.1	34.6
0°-40°	2896.2	53.8
0°-60°	4588.1	85.2
0°-90°	5385.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5385.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2619	2619	2619	2619	2619	
5°	2619	2607	2576	2597	2590	248
15°	2491	2464	2384	2339	2315	702
25°	2261	2185	2028	1932	1896	1040
35°	1948	1827	1619	1469	1417	1219
45°	1593	1434	1185	1016	960	1230
55°	1211	1026	770	628	583	1082
65°	818	626	412	332	325	811
75°	436	270	190	173	171	461
85°	102	52	45	45	45	122
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-PN4F0-080DS927-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2618.7	2618.7	2618.7	2618.7	2618.7
2.5°	2630.5	2618.7	2592.5	2616.4	2611.6
5°	2618.7	2606.9	2575.9	2597.3	2590.2
7.5°	2597.3	2583.2	2550.0	2559.3	2547.5
10°	2568.9	2552.3	2505.0	2497.7	2483.6
12.5°	2533.4	2512.1	2447.9	2433.8	2407.7
15°	2490.7	2464.5	2384.1	2339.1	2315.4
17.5°	2440.9	2402.9	2303.4	2251.3	2213.3
20°	2384.1	2336.6	2218.2	2159.1	2106.7
22.5°	2322.5	2267.9	2130.4	2049.9	2014.5
25°	2260.8	2185.0	2028.5	1931.5	1895.8
27.5°	2187.4	2106.7	1933.7	1822.4	1767.8
30°	2109.3	2019.0	1829.4	1708.7	1644.6
32.5°	2033.3	1924.2	1730.1	1587.8	1528.5
35°	1948.1	1827.1	1618.7	1469.4	1417.0
37.5°	1865.1	1734.6	1514.4	1350.7	1291.6
40°	1777.4	1635.3	1405.2	1237.0	1175.4
42.5°	1687.4	1535.8	1296.3	1120.9	1061.8
45°	1592.6	1433.7	1185.0	1016.5	959.7
47.5°	1502.6	1334.4	1078.4	909.9	857.9
50°	1402.9	1234.8	974.1	810.4	760.8
52.5°	1305.7	1127.9	874.4	718.1	673.1
55°	1210.9	1026.1	770.1	628.1	583.1
57.5°	1113.9	924.3	677.9	545.1	507.1
60°	1014.2	824.7	580.5	459.8	421.9
62.5°	917.2	727.6	497.6	384.0	365.1
65°	817.7	625.5	412.3	331.9	324.6
67.5°	722.9	530.8	331.9	291.4	284.4
70°	623.3	438.5	274.8	251.1	241.6
72.5°	528.5	353.0	229.8	211.0	206.2
75°	436.0	270.1	189.6	173.0	170.8
77.5°	343.7	191.8	149.4	139.8	135.0
80°	258.2	137.6	113.7	104.3	104.3
82.5°	180.0	92.5	78.2	73.4	73.4
85°	101.9	52.0	45.0	45.0	45.0
87.5°	37.9	18.8	18.8	16.6	16.6
90°	0.0	0.0	0.0	0.0	0.0

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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	13.49	15.01	13.85	15.32	15.64	9.45	10.97	9.81	11.28	11.60
	3H	15.25	16.62	15.63	16.94	17.31	10.71	12.08	11.09	12.40	12.77
	4H	15.92	17.20	16.32	17.55	17.93	11.21	12.49	11.61	12.84	13.22
	6H	16.41	17.59	16.82	17.96	18.35	11.59	12.78	12.01	13.14	13.54
	8H	16.57	17.70	17.00	18.09	18.49	11.72	12.85	12.14	13.23	13.64
	12H	16.68	17.75	17.11	18.14	18.56	11.80	12.88	12.23	13.26	13.69
4H	2H	13.59	14.87	13.99	15.22	15.60	10.14	11.42	10.54	11.77	12.15
	3H	15.52	16.59	15.93	16.99	17.39	11.58	12.65	12.00	13.05	13.45
	4H	16.27	17.23	16.71	17.64	18.08	12.18	13.14	12.62	13.56	13.99
	6H	16.86	17.70	17.32	18.14	18.60	12.67	13.50	13.13	13.95	14.41
	8H	17.08	17.86	17.54	18.30	18.77	12.83	13.61	13.30	14.06	14.52
	12H	17.23	17.93	17.71	18.41	18.88	12.95	13.65	13.43	14.12	14.60
8H	4H	16.30	17.07	16.76	17.52	17.99	12.54	13.32	13.00	13.76	14.23
	6H	16.93	17.58	17.43	18.07	18.55	13.12	13.77	13.62	14.26	14.74
	8H	17.18	17.76	17.70	18.27	18.76	13.35	13.92	13.86	14.43	14.92
	12H	17.39	17.90	17.90	18.39	18.96	13.52	14.03	14.03	14.53	15.09
12H	4H	16.28	16.98	16.76	17.45	17.93	12.58	13.28	13.06	13.75	14.23
	6H	16.92	17.49	17.43	18.00	18.49	13.19	13.77	13.70	14.28	14.76
	8H	17.20	17.71	17.71	18.20	18.77	13.46	13.97	13.97	14.46	15.03