

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: P930686

Luminaire Tested: DFN2DS-PN4F0-060DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930686
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-PN4F0-060DS950-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

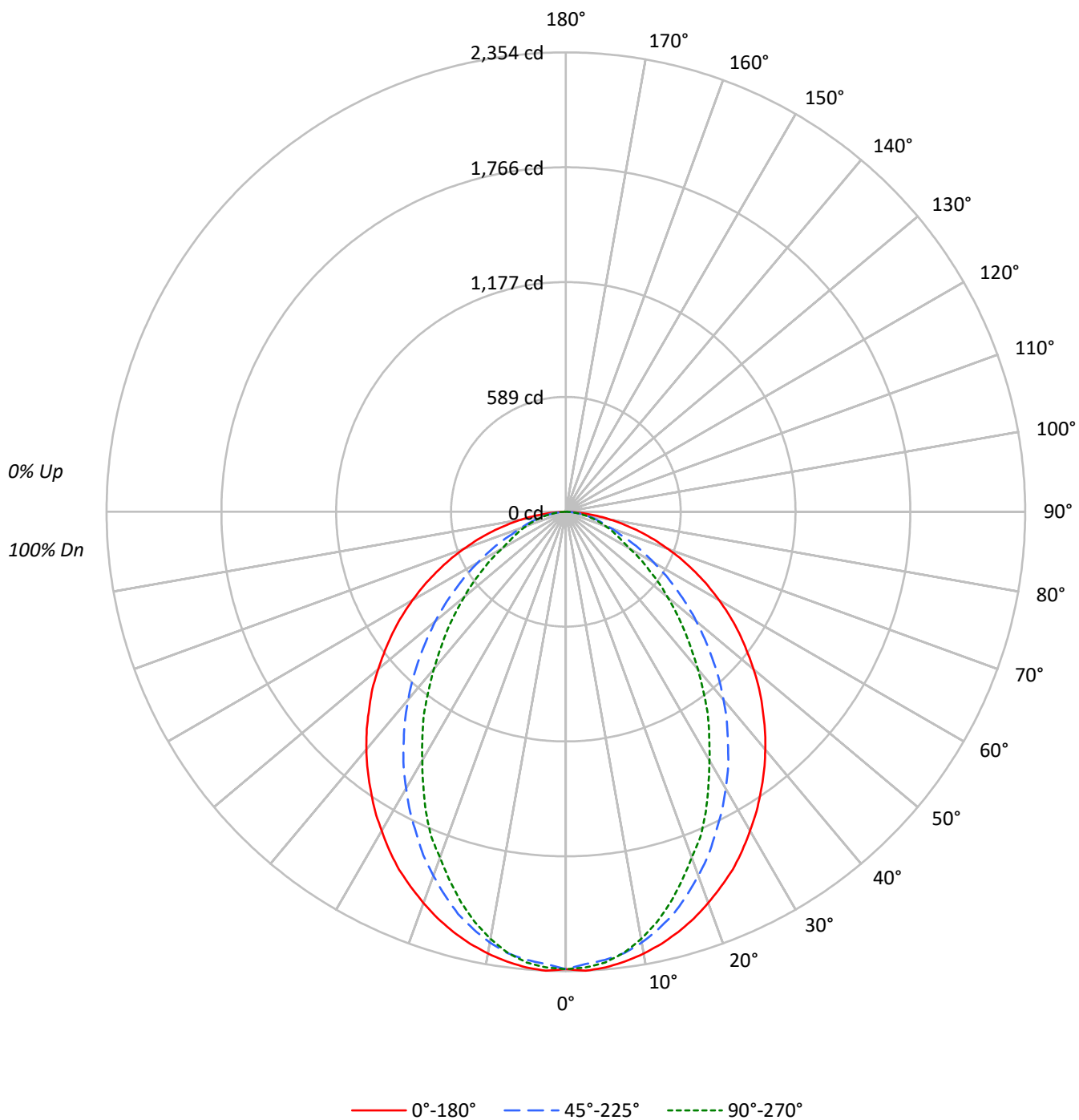
Lumens per Lamp: N/A
Luminaire Lumens: 4819.5 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 59.3
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: P930686

CATALOG NUMBER: DFN2DS-PN4F0-060DS950-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°	1711	1711	1711
5°	1717	1689	1699
10°	1704	1662	1647
15°	1684	1612	1566
20°	1657	1542	1465
25°	1630	1462	1366
30°	1591	1380	1240
35°	1553	1291	1130
40°	1516	1198	1002
45°	1471	1095	887
50°	1426	990	773
55°	1379	877	664
60°	1325	759	551
65°	1264	637	502
70°	1190	525	461
75°	1100	478	431
80°	971	428	393
85°	763	338	338

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1471 cd/sqm

TEST NUMBER: P930686

CATALOG NUMBER: DFN2DS-PN4F0-060DS950-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.6	4.6
10°-20°	602.9	12.5
20°-30°	846.5	17.6
30°-40°	922.7	19.1
40°-50°	848.1	17.6
50°-60°	666.0	13.8
60°-70°	433.5	9.0
70°-80°	223.2	4.6
80°-90°	57.0	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°	1669.0	34.6
0°-40°	2591.7	53.8
0°-60°	4105.8	85.2
0°-90°	4819.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4819.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2343	2343	2343	2343	2343	
5°	2343	2333	2305	2324	2318	222
15°	2229	2205	2133	2093	2072	628
25°	2023	1955	1815	1728	1697	930
35°	1743	1635	1449	1315	1268	1091
45°	1425	1283	1060	910	859	1101
55°	1084	918	689	562	522	968
65°	732	560	369	297	290	725
75°	390	242	170	155	153	413
85°	91	47	40	40	40	109
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-PN4F0-060DS950-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2343.4	2343.4	2343.4	2343.4	2343.4
2.5°	2354.0	2343.4	2320.0	2341.3	2337.1
5°	2343.4	2332.8	2305.1	2324.3	2318.0
7.5°	2324.3	2311.7	2282.0	2290.3	2279.7
10°	2298.8	2284.0	2241.7	2235.2	2222.5
12.5°	2267.1	2248.0	2190.6	2178.0	2154.6
15°	2228.9	2205.4	2133.4	2093.2	2072.0
17.5°	2184.4	2150.3	2061.2	2014.6	1980.7
20°	2133.4	2090.9	1985.0	1932.1	1885.3
22.5°	2078.3	2029.5	1906.4	1834.4	1802.7
25°	2023.2	1955.3	1815.3	1728.5	1696.6
27.5°	1957.6	1885.3	1730.5	1630.8	1582.0
30°	1887.5	1806.7	1637.1	1529.1	1471.7
32.5°	1819.6	1722.0	1548.3	1420.9	1367.8
35°	1743.3	1635.1	1448.6	1314.9	1268.1
37.5°	1669.1	1552.3	1355.2	1208.7	1155.8
40°	1590.5	1463.4	1257.5	1107.0	1051.9
42.5°	1510.0	1374.3	1160.1	1003.0	950.2
45°	1425.2	1282.9	1060.5	909.7	858.8
47.5°	1344.6	1194.1	965.0	814.3	767.7
50°	1255.5	1105.0	871.7	725.2	680.9
52.5°	1168.4	1009.4	782.6	642.6	602.3
55°	1083.6	918.3	689.2	562.1	521.7
57.5°	996.8	827.1	606.6	487.8	453.8
60°	907.7	738.0	519.6	411.5	377.5
62.5°	820.8	651.2	445.3	343.6	326.7
65°	731.7	559.8	369.0	297.0	290.5
67.5°	646.9	475.0	297.0	260.8	254.5
70°	557.7	392.4	245.9	224.8	216.2
72.5°	473.0	315.9	205.6	188.8	184.5
75°	390.2	241.6	169.6	154.8	152.8
77.5°	307.6	171.7	133.6	125.1	120.9
80°	231.1	123.0	101.7	93.4	93.4
82.5°	161.1	82.8	69.9	65.7	65.7
85°	91.1	46.6	40.3	40.3	40.3
87.5°	34.0	16.9	16.9	14.8	14.8
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	13.10	14.62	13.46	14.94	15.25	9.06	10.58	9.43	10.90	11.21
	3H	14.87	16.23	15.24	16.56	16.92	10.33	11.69	10.70	12.02	12.38
	4H	15.53	16.81	15.93	17.16	17.54	10.83	12.11	11.23	12.46	12.84
	6H	16.02	17.20	16.43	17.57	17.96	11.21	12.39	11.62	12.76	13.15
	8H	16.19	17.31	16.61	17.70	18.10	11.33	12.46	11.76	12.85	13.25
	12H	16.29	17.37	16.72	17.75	18.18	11.41	12.49	11.84	12.87	13.30
4H	2H	13.20	14.48	13.60	14.83	15.21	9.76	11.04	10.16	11.39	11.76
	3H	15.14	16.20	15.55	16.60	17.00	11.20	12.26	11.61	12.66	13.06
	4H	15.89	16.84	16.32	17.26	17.70	11.80	12.75	12.23	13.17	13.61
	6H	16.48	17.31	16.94	17.75	18.21	12.29	13.12	12.74	13.56	14.02
	8H	16.69	17.47	17.16	17.91	18.38	12.45	13.23	12.91	13.67	14.14
	12H	16.85	17.54	17.33	18.02	18.49	12.57	13.26	13.05	13.74	14.21
8H	4H	15.91	16.69	16.37	17.13	17.60	12.15	12.93	12.62	13.37	13.84
	6H	16.55	17.19	17.04	17.68	18.16	12.74	13.38	13.24	13.87	14.35
	8H	16.80	17.38	17.31	17.88	18.37	12.96	13.54	13.47	14.05	14.53
	12H	17.00	17.51	17.51	18.00	18.57	13.14	13.65	13.65	14.14	14.71
12H	4H	15.90	16.59	16.38	17.07	17.54	12.20	12.89	12.68	13.37	13.84
	6H	16.53	17.11	17.04	17.62	18.10	12.80	13.38	13.32	13.89	14.38
	8H	16.81	17.32	17.32	17.82	18.38	13.08	13.59	13.59	14.08	14.64