

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: P930778

Luminaire Tested: DFN2DS-PN4F0-120DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930778
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-PN4F0-120DS830-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

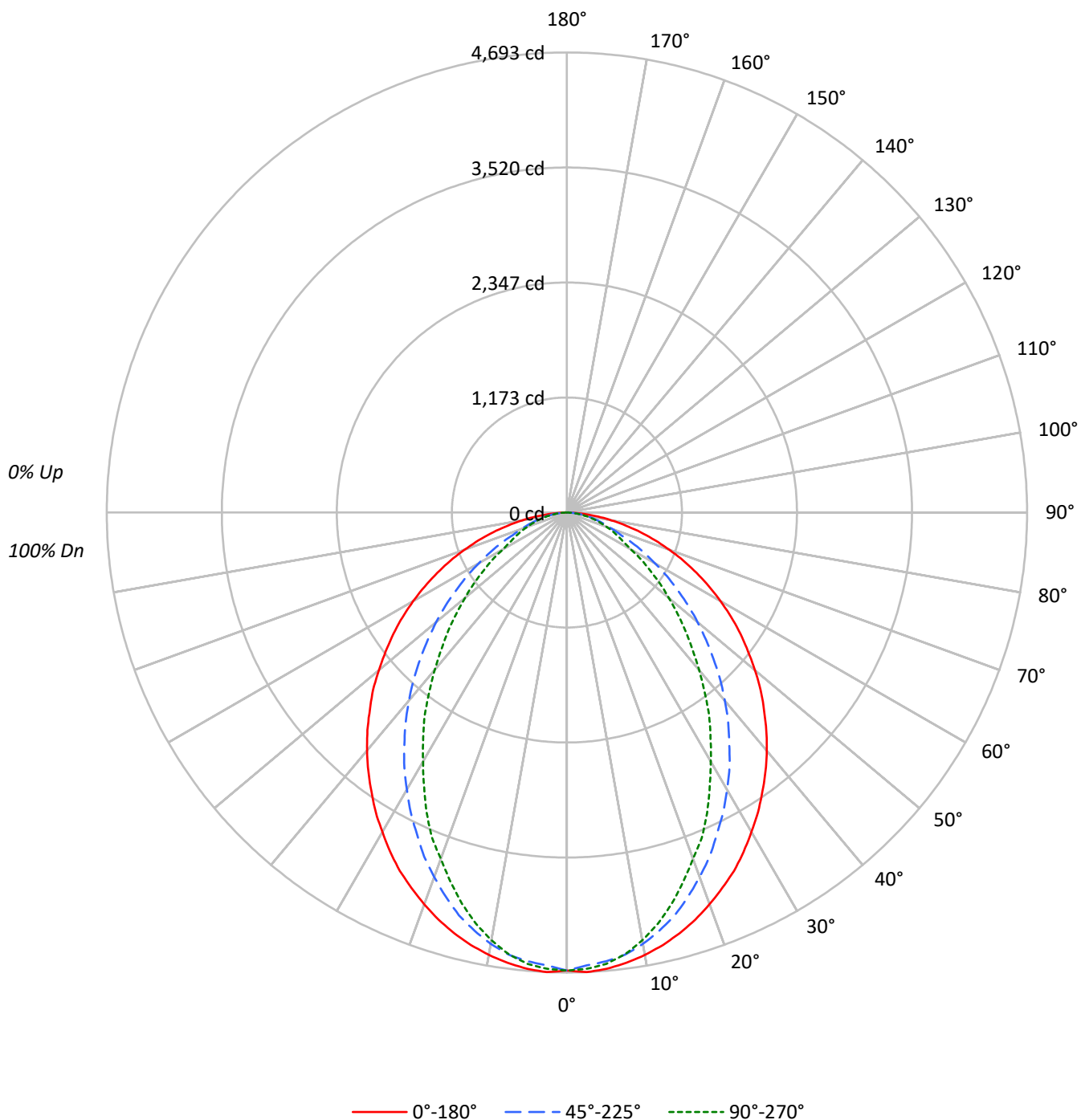
Lumens per Lamp: N/A
Luminaire Lumens: 9608.4 lumens
Efficiency: N/A
Efficacy: 73.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 131
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930778

CATALOG NUMBER: DFN2DS-PN4F0-120DS830-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P930778

CATALOG NUMBER: DFN2DS-PN4F0-120DS830-RLL

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°	3410	3410	3410
5°	3423	3367	3386
10°	3397	3313	3284
15°	3358	3214	3122
20°	3304	3074	2920
25°	3249	2915	2724
30°	3172	2751	2473
35°	3097	2573	2253
40°	3022	2389	1998
45°	2933	2182	1768
50°	2843	1973	1541
55°	2749	1749	1324
60°	2642	1512	1099
65°	2520	1271	1000
70°	2373	1046	920
75°	2194	954	859
80°	1937	852	782
85°	1522	673	673

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2933 cd/sqm

TEST NUMBER: P930778

CATALOG NUMBER: DFN2DS-PN4F0-120DS830-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	437.9	4.6
10°-20°	1202.0	12.5
20°-30°	1687.6	17.6
30°-40°	1839.6	19.1
40°-50°	1690.8	17.6
50°-60°	1327.8	13.8
60°-70°	864.3	9.0
70°-80°	444.9	4.6
80°-90°	113.6	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°	3327.4	34.6
0°-40°	5167.0	53.8
0°-60°	8185.6	85.2
0°-90°	9608.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9608.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4672	4672	4672	4672	4672	
5°	4672	4651	4596	4634	4621	443
15°	4444	4397	4253	4173	4131	1252
25°	4034	3898	3619	3446	3382	1855
35°	3476	3260	2888	2622	2528	2175
45°	2841	2558	2114	1814	1712	2194
55°	2160	1831	1374	1120	1040	1930
65°	1459	1116	736	592	579	1446
75°	778	482	338	309	304	823
85°	182	93	80	80	80	218
90°	0	0	0	0	0	

TEST NUMBER: P930778

CATALOG NUMBER: DFN2DS-PN4F0-120DS830-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4671.9	4671.9	4671.9	4671.9	4671.9
2.5°	4693.0	4671.9	4625.3	4667.9	4659.3
5°	4671.9	4650.8	4595.6	4633.8	4621.3
7.5°	4633.8	4608.6	4549.5	4566.1	4545.0
10°	4583.1	4553.5	4469.1	4456.1	4431.1
12.5°	4519.8	4481.8	4367.3	4342.2	4295.6
15°	4443.6	4397.0	4253.4	4173.1	4131.0
17.5°	4354.8	4287.0	4109.4	4016.6	3948.9
20°	4253.4	4168.6	3957.3	3851.9	3758.6
22.5°	4143.5	4046.2	3800.8	3657.2	3594.0
25°	4033.6	3898.1	3619.1	3445.9	3382.3
27.5°	3902.6	3758.6	3450.0	3251.3	3153.9
30°	3763.1	3602.1	3263.8	3048.5	2934.1
32.5°	3627.6	3432.9	3086.7	2832.8	2726.9
35°	3475.6	3259.8	2887.9	2621.5	2528.1
37.5°	3327.5	3094.8	2701.8	2409.7	2304.3
40°	3171.0	2917.6	2507.1	2207.0	2097.1
42.5°	3010.3	2739.9	2312.9	1999.8	1894.4
45°	2841.3	2557.8	2114.1	1813.6	1712.2
47.5°	2680.6	2380.6	1923.9	1623.4	1530.6
50°	2503.1	2203.0	1737.8	1445.8	1357.4
52.5°	2329.5	2012.3	1560.1	1281.1	1200.9
55°	2160.4	1830.7	1374.0	1120.5	1040.3
57.5°	1987.1	1649.0	1209.3	972.5	904.8
60°	1809.6	1471.3	1035.7	820.5	752.8
62.5°	1636.4	1298.2	887.7	685.0	651.3
65°	1458.8	1116.1	735.7	592.1	579.1
67.5°	1289.7	946.9	592.1	519.9	507.4
70°	1112.0	782.3	490.3	448.1	431.1
72.5°	942.9	629.8	410.0	376.3	367.9
75°	777.8	481.7	338.3	308.6	304.5
77.5°	613.2	342.2	266.5	249.4	240.9
80°	460.7	245.4	202.7	186.1	186.1
82.5°	321.2	165.0	139.5	130.9	130.9
85°	181.7	92.9	80.3	80.3	80.3
87.5°	67.7	33.6	33.6	29.6	29.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930778

CATALOG NUMBER: DFN2DS-PN4F0-120DS830-RLL

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	15.50	17.02	15.86	17.33	17.65	11.46	12.98	11.82	13.29	13.61
	3H	17.26	18.63	17.64	18.96	19.32	12.72	14.09	13.10	14.42	14.78
	4H	17.93	19.21	18.33	19.56	19.94	13.22	14.51	13.62	14.85	15.23
	6H	18.42	19.60	18.83	19.97	20.36	13.61	14.79	14.02	15.15	15.55
	8H	18.58	19.71	19.01	20.10	20.50	13.73	14.86	14.16	15.25	15.65
	12H	18.69	19.76	19.12	20.15	20.58	13.81	14.89	14.24	15.27	15.70
4H	2H	15.60	16.88	16.00	17.23	17.61	12.15	13.43	12.55	13.78	14.16
	3H	17.53	18.60	17.95	19.00	19.40	13.60	14.66	14.01	15.06	15.46
	4H	18.28	19.24	18.72	19.66	20.09	14.20	15.15	14.63	15.57	16.01
	6H	18.88	19.71	19.33	20.15	20.61	14.68	15.52	15.14	15.96	16.42
	8H	19.09	19.87	19.55	20.31	20.78	14.85	15.62	15.31	16.07	16.53
	12H	19.24	19.94	19.73	20.42	20.89	14.96	15.66	15.44	16.14	16.61
8H	4H	18.31	19.09	18.77	19.53	20.00	14.55	15.33	15.01	15.77	16.24
	6H	18.95	19.59	19.44	20.08	20.56	15.14	15.78	15.63	16.27	16.75
	8H	19.20	19.77	19.71	20.28	20.77	15.36	15.93	15.87	16.44	16.93
	12H	19.40	19.91	19.91	20.40	20.97	15.54	16.05	16.05	16.54	17.10
12H	4H	18.29	18.99	18.77	19.47	19.94	14.59	15.29	15.07	15.77	16.24
	6H	18.93	19.50	19.44	20.01	20.50	15.20	15.78	15.71	16.29	16.77
	8H	19.21	19.72	19.72	20.21	20.78	15.47	15.98	15.98	16.47	17.04