

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: P930752

Luminaire Tested: DFN2DS-PN4F0-100DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930752
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-PN4F0-100DS930-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

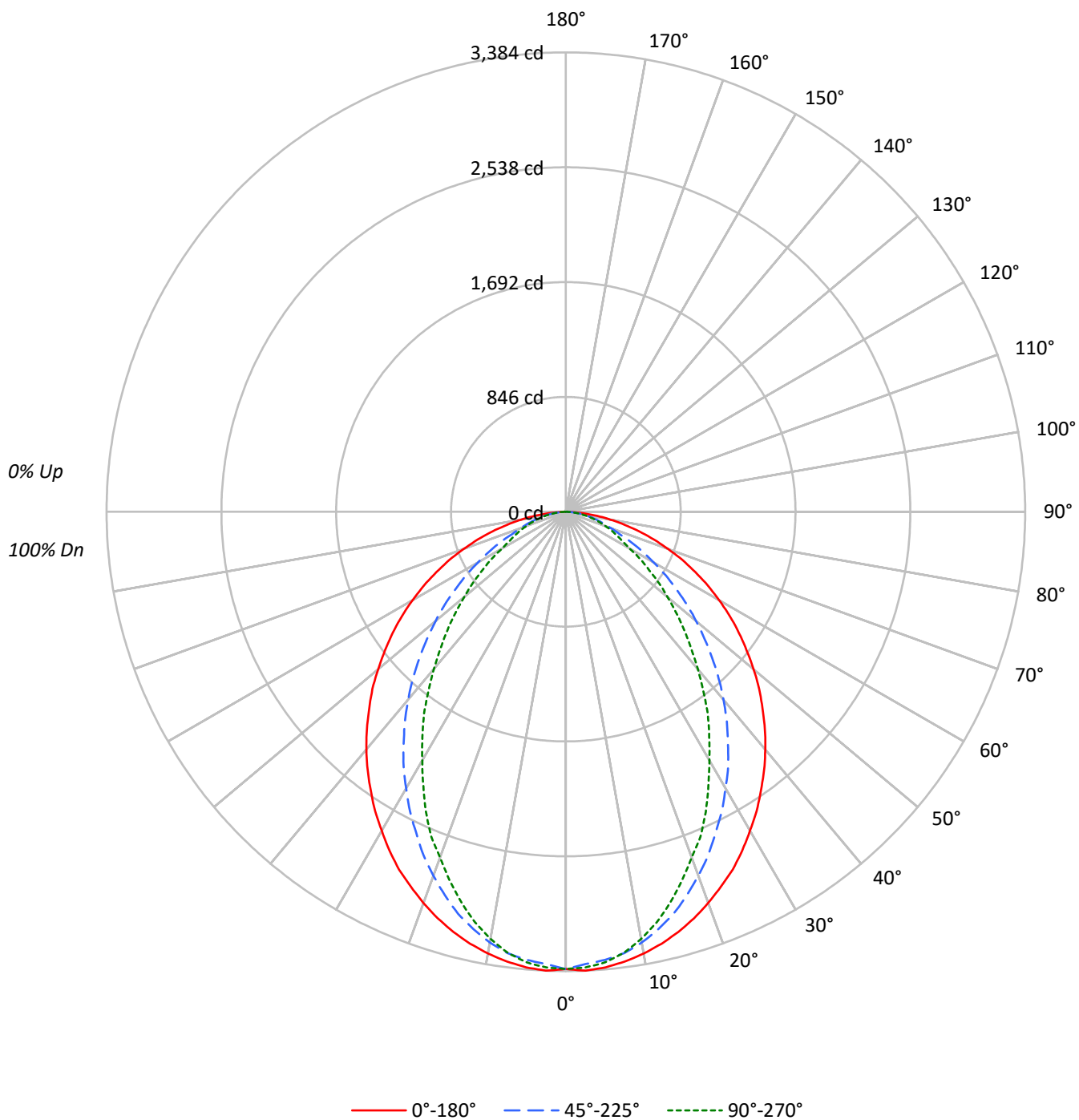
Lumens per Lamp: N/A
Luminaire Lumens: 6927.5 lumens
Efficiency: N/A
Efficacy: 65.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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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°	2459	2459	2459
5°	2468	2428	2441
10°	2449	2388	2368
15°	2421	2317	2251
20°	2382	2216	2105
25°	2342	2102	1964
30°	2287	1983	1783
35°	2233	1855	1624
40°	2179	1722	1441
45°	2115	1574	1274
50°	2049	1423	1111
55°	1982	1261	954
60°	1905	1090	792
65°	1817	916	721
70°	1711	754	663
75°	1582	688	619
80°	1396	615	564
85°	1097	485	485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2115 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.7	4.6
10°-20°	866.6	12.5
20°-30°	1216.7	17.6
30°-40°	1326.3	19.1
40°-50°	1219.0	17.6
50°-60°	957.3	13.8
60°-70°	623.1	9.0
70°-80°	320.8	4.6
80°-90°	81.9	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°	2399.0	34.6
0°-40°	3725.3	53.8
0°-60°	5901.7	85.2
0°-90°	6927.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6927.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3368	3368	3368	3368	3368	
5°	3368	3353	3313	3341	3332	319
15°	3204	3170	3067	3009	2978	903
25°	2908	2810	2609	2484	2439	1337
35°	2506	2350	2082	1890	1823	1568
45°	2048	1844	1524	1308	1234	1582
55°	1558	1320	991	808	750	1392
65°	1052	805	530	427	418	1043
75°	561	347	244	222	220	593
85°	131	67	58	58	58	157
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3368.4	3368.4	3368.4	3368.4	3368.4
2.5°	3383.6	3368.4	3334.7	3365.5	3359.3
5°	3368.4	3353.2	3313.4	3340.9	3331.8
7.5°	3340.9	3322.8	3280.0	3292.0	3276.9
10°	3304.3	3283.0	3222.2	3212.8	3194.7
12.5°	3258.8	3231.2	3148.8	3130.7	3097.0
15°	3203.8	3170.1	3066.6	3008.7	2978.3
17.5°	3139.7	3090.9	2962.9	2895.9	2847.0
20°	3066.6	3005.5	2853.2	2777.2	2709.9
22.5°	2987.4	2917.2	2740.3	2636.9	2591.2
25°	2908.2	2810.5	2609.3	2484.4	2438.6
27.5°	2813.7	2709.9	2487.4	2344.1	2273.9
30°	2713.1	2597.0	2353.1	2198.0	2115.5
32.5°	2615.5	2475.1	2225.4	2042.4	1966.0
35°	2505.8	2350.3	2082.2	1890.1	1822.7
37.5°	2399.1	2231.2	1947.9	1737.4	1661.4
40°	2286.2	2103.5	1807.6	1591.2	1512.0
42.5°	2170.4	1975.4	1667.6	1441.8	1365.8
45°	2048.5	1844.1	1524.3	1307.6	1234.5
47.5°	1932.8	1716.4	1387.1	1170.4	1103.5
50°	1804.7	1588.3	1252.9	1042.4	978.7
52.5°	1679.5	1450.9	1124.9	923.6	865.8
55°	1557.5	1319.9	990.6	807.9	750.0
57.5°	1432.8	1188.8	872.0	701.1	652.3
60°	1304.7	1060.8	746.8	591.5	542.7
62.5°	1179.8	935.9	640.0	493.9	469.6
65°	1051.8	804.6	530.4	426.9	417.5
67.5°	929.8	682.7	426.9	374.8	365.8
70°	801.7	564.1	353.5	323.1	310.8
72.5°	679.8	454.0	295.6	271.3	265.2
75°	560.8	347.4	243.8	222.5	219.6
77.5°	442.1	246.8	192.1	179.8	173.7
80°	332.1	176.9	146.2	134.2	134.2
82.5°	231.5	119.0	100.6	94.5	94.5
85°	131.0	66.9	57.9	57.9	57.9
87.5°	48.8	24.3	24.3	21.4	21.4
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	14.36	15.88	14.73	16.20	16.51	10.32	11.84	10.69	12.16	12.47
	3H	16.13	17.49	16.50	17.82	18.18	11.59	12.95	11.96	13.28	13.64
	4H	16.79	18.07	17.19	18.42	18.80	12.09	13.37	12.49	13.72	14.10
	6H	17.28	18.46	17.69	18.83	19.22	12.47	13.65	12.88	14.02	14.41
	8H	17.45	18.57	17.87	18.96	19.36	12.59	13.72	13.02	14.11	14.51
	12H	17.55	18.63	17.98	19.01	19.44	12.67	13.75	13.10	14.13	14.56
4H	2H	14.46	15.74	14.86	16.09	16.47	11.02	12.30	11.42	12.65	13.02
	3H	16.40	17.46	16.81	17.86	18.26	12.46	13.52	12.87	13.92	14.32
	4H	17.15	18.10	17.58	18.52	18.96	13.06	14.02	13.49	14.43	14.87
	6H	17.74	18.57	18.20	19.01	19.47	13.55	14.38	14.00	14.82	15.28
	8H	17.95	18.73	18.42	19.17	19.64	13.71	14.49	14.17	14.93	15.40
	12H	18.11	18.80	18.59	19.28	19.75	13.83	14.52	14.31	15.00	15.47
8H	4H	17.17	17.95	17.63	18.39	18.86	13.41	14.19	13.88	14.63	15.10
	6H	17.81	18.45	18.31	18.94	19.42	14.00	14.64	14.50	15.13	15.61
	8H	18.06	18.64	18.57	19.15	19.63	14.22	14.80	14.73	15.31	15.79
	12H	18.26	18.77	18.77	19.26	19.83	14.40	14.91	14.91	15.40	15.97
12H	4H	17.16	17.85	17.64	18.33	18.80	13.46	14.15	13.94	14.63	15.10
	6H	17.79	18.37	18.30	18.88	19.36	14.06	14.64	14.58	15.15	15.64
	8H	18.07	18.58	18.58	19.08	19.64	14.34	14.85	14.85	15.34	15.90