

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: P930781

Luminaire Tested: DFN2DS-PN4F0-120DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930781
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN4F0-120DS840-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

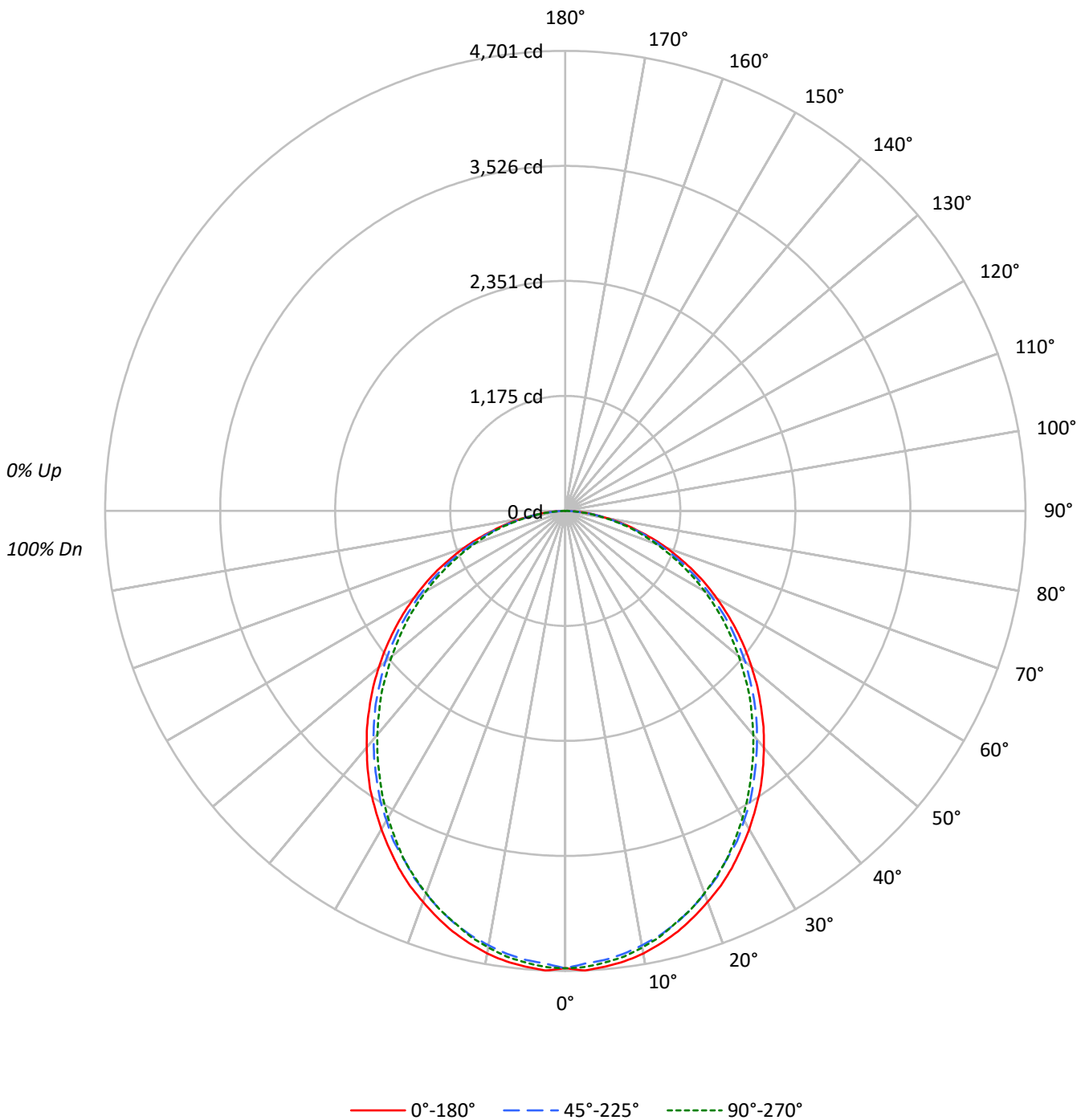
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11891.9 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
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

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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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	73	73	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	62	62	62	60
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	54	54	54	51
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	47	47	47	45
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	41	41	41	39
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	37	37	37	35
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	33	33	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	30	30	30	28
10	54	41	33	28	53	40	33	28	39	32	27	38	32	27	37	32	27	27	27	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3412	3412	3412
5°	3425	3376	3395
10°	3405	3341	3358
15°	3362	3298	3295
20°	3303	3233	3230
25°	3243	3153	3153
30°	3167	3080	3053
35°	3096	2992	2948
40°	3007	2903	2848
45°	2918	2816	2747
50°	2822	2725	2628
55°	2723	2620	2523
60°	2611	2494	2402
65°	2492	2368	2259
70°	2341	2215	2111
75°	2129	2040	1990
80°	1890	1832	1738
85°	1542	1470	1318

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2918 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.9	3.7
10°-20°	1237.7	10.4
20°-30°	1819.0	15.3
30°-40°	2112.7	17.8
40°-50°	2110.0	17.7
50°-60°	1839.9	15.5
60°-70°	1360.1	11.4
70°-80°	769.5	6.5
80°-90°	203.1	1.7
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°	3496.6	29.4
0°-40°	5609.3	47.2
0°-60°	9559.2	80.4
0°-90°	11891.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11891.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4674	4674	4674	4674	4674	
5°	4674	4656	4607	4642	4634	444
15°	4449	4423	4364	4382	4360	1253
25°	4027	3991	3915	3923	3915	1853
35°	3474	3429	3357	3330	3308	2170
45°	2827	2796	2728	2679	2661	2182
55°	2140	2112	2058	2005	1982	1913
65°	1443	1416	1371	1330	1308	1427
75°	755	746	723	697	706	806
85°	184	180	176	162	157	216
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4674.0	4674.0	4674.0	4674.0	4674.0
2.5°	4701.1	4678.7	4629.1	4674.0	4665.4
5°	4674.0	4656.3	4606.7	4642.4	4633.8
7.5°	4642.4	4615.7	4566.2	4602.4	4593.4
10°	4593.4	4561.9	4508.0	4543.7	4530.4
12.5°	4525.6	4498.9	4445.0	4467.5	4458.4
15°	4449.3	4422.6	4364.0	4382.1	4359.7
17.5°	4355.0	4328.2	4269.6	4292.0	4269.6
20°	4251.4	4224.7	4161.9	4175.2	4157.6
22.5°	4148.4	4107.9	4049.2	4049.2	4040.2
25°	4026.8	3991.1	3914.8	3923.4	3914.8
27.5°	3891.9	3860.5	3802.3	3788.9	3766.6
30°	3757.5	3721.2	3654.0	3640.6	3622.5
32.5°	3613.4	3586.8	3514.7	3487.6	3469.5
35°	3474.2	3429.4	3357.4	3330.2	3307.8
37.5°	3316.8	3276.4	3204.3	3172.9	3150.4
40°	3155.3	3119.0	3046.9	3006.9	2988.8
42.5°	2997.9	2961.7	2890.1	2844.8	2818.1
45°	2827.1	2795.7	2727.9	2678.9	2660.8
47.5°	2660.8	2629.2	2557.3	2507.7	2481.0
50°	2485.3	2462.9	2399.9	2336.9	2314.5
52.5°	2314.5	2283.1	2224.9	2175.3	2143.8
55°	2139.5	2112.4	2058.5	2004.6	1982.2
57.5°	1964.1	1941.6	1883.0	1829.1	1811.0
60°	1788.6	1771.0	1708.0	1658.5	1645.0
62.5°	1617.9	1586.4	1541.6	1496.8	1478.7
65°	1442.9	1415.7	1370.9	1330.3	1308.0
67.5°	1263.2	1240.2	1200.2	1168.8	1150.6
70°	1096.7	1078.6	1038.0	1006.6	989.0
72.5°	926.0	907.9	885.5	854.1	840.6
75°	754.9	746.2	723.3	696.7	705.7
77.5°	602.2	584.1	575.1	561.7	548.3
80°	449.6	444.8	435.8	422.5	413.4
82.5°	305.6	305.6	301.4	283.3	283.3
85°	184.1	179.8	175.5	161.7	157.4
87.5°	81.1	72.0	63.0	49.5	44.8
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	15.55	17.16	15.91	17.47	17.79	15.10	16.71	15.47	17.03	17.34
	3H	17.30	18.75	17.67	19.08	19.44	16.81	18.26	17.18	18.59	18.95
	4H	17.94	19.31	18.34	19.66	20.04	17.45	18.82	17.85	19.16	19.54
	6H	18.41	19.68	18.82	20.04	20.44	17.91	19.18	18.32	19.54	19.93
	8H	18.55	19.77	18.98	20.15	20.55	18.05	19.26	18.48	19.65	20.05
	12H	18.65	19.81	19.07	20.19	20.62	18.13	19.29	18.56	19.67	20.10
4H	2H	16.11	17.48	16.51	17.82	18.20	15.75	17.12	16.15	17.47	17.85
	3H	18.08	19.23	18.49	19.63	20.03	17.68	18.82	18.08	19.22	19.62
	4H	18.86	19.89	19.29	20.31	20.74	18.43	19.47	18.87	19.88	20.32
	6H	19.45	20.36	19.91	20.80	21.26	19.02	19.93	19.48	20.37	20.82
	8H	19.64	20.49	20.10	20.93	21.40	19.21	20.05	19.67	20.50	20.96
	12H	19.78	20.54	20.26	21.01	21.48	19.32	20.08	19.80	20.56	21.03
8H	4H	19.13	19.98	19.59	20.42	20.89	18.76	19.60	19.22	20.05	20.51
	6H	19.85	20.55	20.34	21.04	21.51	19.46	20.17	19.96	20.66	21.13
	8H	20.11	20.74	20.61	21.24	21.73	19.71	20.34	20.22	20.85	21.34
	12H	20.30	20.86	20.81	21.35	21.91	19.89	20.45	20.40	20.94	21.50
12H	4H	19.16	19.92	19.64	20.39	20.86	18.79	19.55	19.27	20.03	20.50
	6H	19.89	20.52	20.40	21.03	21.52	19.52	20.15	20.03	20.66	21.15
	8H	20.21	20.76	20.71	21.25	21.81	19.83	20.39	20.33	20.88	21.44