

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: P930783

Luminaire Tested: DFN2DS-PN4F0-120DS850-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930783
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-PN4F0-120DS850-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

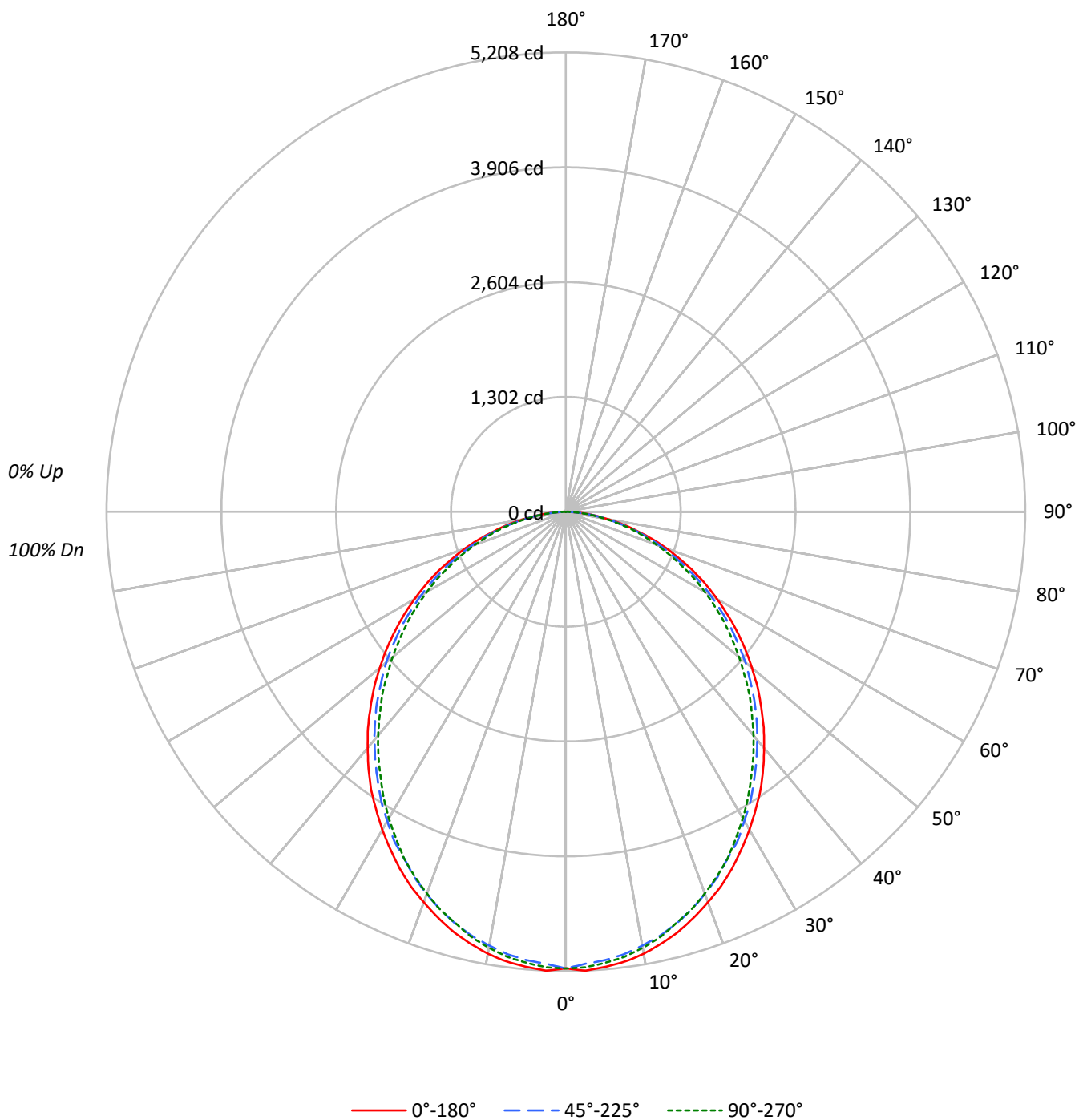
Lumens per Lamp: N/A
Luminaire Lumens: 13174.9 lumens
Efficiency: N/A
Efficacy: 100.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3780	3780	3780
5°	3794	3740	3762
10°	3772	3702	3720
15°	3725	3654	3650
20°	3659	3582	3578
25°	3593	3493	3493
30°	3509	3412	3383
35°	3430	3315	3266
40°	3331	3217	3155
45°	3233	3120	3043
50°	3127	3019	2912
55°	3017	2902	2795
60°	2893	2763	2661
65°	2761	2623	2503
70°	2593	2454	2339
75°	2359	2260	2205
80°	2094	2030	1925
85°	1708	1628	1460

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3233 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	487.4	3.7
10°-20°	1371.3	10.4
20°-30°	2015.2	15.3
30°-40°	2340.6	17.8
40°-50°	2337.7	17.7
50°-60°	2038.4	15.5
60°-70°	1506.8	11.4
70°-80°	852.5	6.5
80°-90°	225.0	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°	3873.9	29.4
0°-40°	6214.5	47.2
0°-60°	10590.5	80.4
0°-90°	13174.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13174.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5178	5178	5178	5178	5178	
5°	5178	5159	5104	5143	5134	492
15°	4929	4900	4835	4855	4830	1388
25°	4461	4422	4337	4347	4337	2053
35°	3849	3799	3720	3690	3665	2404
45°	3132	3097	3022	2968	2948	2417
55°	2370	2340	2280	2221	2196	2119
65°	1599	1568	1519	1474	1449	1581
75°	836	827	801	772	782	893
85°	204	199	194	179	174	240
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5178.3	5178.3	5178.3	5178.3	5178.3
2.5°	5208.3	5183.5	5128.6	5178.3	5168.7
5°	5178.3	5158.6	5103.7	5143.3	5133.8
7.5°	5143.3	5113.7	5058.8	5099.0	5089.0
10°	5089.0	5054.0	4994.4	5034.0	5019.2
12.5°	5013.9	4984.3	4924.6	4949.5	4939.4
15°	4929.4	4899.8	4834.8	4854.9	4830.0
17.5°	4824.8	4795.2	4730.2	4755.1	4730.2
20°	4710.1	4680.5	4610.9	4625.6	4606.1
22.5°	4596.0	4551.1	4486.1	4486.1	4476.1
25°	4461.3	4421.7	4337.2	4346.7	4337.2
27.5°	4311.8	4277.0	4212.5	4197.7	4172.9
30°	4162.9	4122.7	4048.2	4033.4	4013.4
32.5°	4003.3	3973.8	3893.9	3863.9	3843.8
35°	3849.0	3799.4	3719.6	3689.5	3664.7
37.5°	3674.7	3629.9	3550.0	3515.2	3490.4
40°	3495.7	3455.5	3375.7	3331.3	3311.3
42.5°	3321.3	3281.2	3201.9	3151.8	3122.2
45°	3132.1	3097.3	3022.2	2967.9	2947.8
47.5°	2947.8	2912.9	2833.2	2778.3	2748.7
50°	2753.4	2728.6	2658.8	2589.1	2564.2
52.5°	2564.2	2529.4	2465.0	2410.0	2375.1
55°	2370.4	2340.3	2280.5	2220.9	2196.0
57.5°	2176.0	2151.1	2086.1	2026.5	2006.4
60°	1981.6	1962.0	1892.3	1837.4	1822.5
62.5°	1792.5	1757.5	1708.0	1658.3	1638.2
65°	1598.6	1568.5	1518.8	1473.9	1449.1
67.5°	1399.4	1374.1	1329.7	1294.9	1274.8
70°	1215.0	1194.9	1150.0	1115.2	1095.7
72.5°	1025.9	1005.9	981.0	946.2	931.3
75°	836.3	826.8	801.4	771.9	781.8
77.5°	667.2	647.1	637.1	622.3	607.5
80°	498.2	492.8	482.9	468.1	458.0
82.5°	338.6	338.6	333.9	313.8	313.8
85°	203.9	199.2	194.4	179.1	174.3
87.5°	89.8	79.7	69.8	54.9	49.7
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	15.90	17.51	16.27	17.83	18.14	15.46	17.07	15.82	17.38	17.70
	3H	17.65	19.11	18.03	19.43	19.79	17.16	18.62	17.54	18.94	19.30
	4H	18.30	19.67	18.70	20.02	20.39	17.80	19.17	18.20	19.52	19.90
	6H	18.77	20.04	19.18	20.40	20.79	18.27	19.54	18.68	19.90	20.29
	8H	18.91	20.12	19.34	20.51	20.91	18.41	19.62	18.83	20.01	20.41
	12H	19.00	20.16	19.43	20.54	20.97	18.49	19.65	18.92	20.03	20.46
4H	2H	16.46	17.83	16.86	18.18	18.56	16.11	17.48	16.51	17.83	18.20
	3H	18.44	19.58	18.85	19.98	20.38	18.03	19.18	18.44	19.58	19.98
	4H	19.21	20.25	19.65	20.66	21.10	18.79	19.83	19.22	20.24	20.68
	6H	19.81	20.72	20.27	21.16	21.61	19.38	20.28	19.83	20.72	21.18
	8H	20.00	20.85	20.46	21.29	21.75	19.56	20.41	20.02	20.85	21.32
	12H	20.13	20.89	20.61	21.37	21.84	19.68	20.44	20.16	20.92	21.39
8H	4H	19.49	20.33	19.95	20.78	21.24	19.11	19.96	19.57	20.40	20.87
	6H	20.20	20.91	20.70	21.39	21.87	19.82	20.52	20.31	21.01	21.49
	8H	20.46	21.09	20.97	21.60	22.08	20.07	20.70	20.58	21.21	21.69
	12H	20.66	21.22	21.17	21.71	22.27	20.25	20.81	20.76	21.30	21.86
12H	4H	19.51	20.27	19.99	20.75	21.22	19.15	19.91	19.63	20.38	20.85
	6H	20.25	20.88	20.76	21.39	21.87	19.88	20.51	20.39	21.02	21.50
	8H	20.56	21.12	21.07	21.61	22.17	20.18	20.74	20.69	21.23	21.79