

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: P930794

Luminaire Tested: DFN2DS-PN4F0-120DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930794
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-PN4F0-120DS950-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

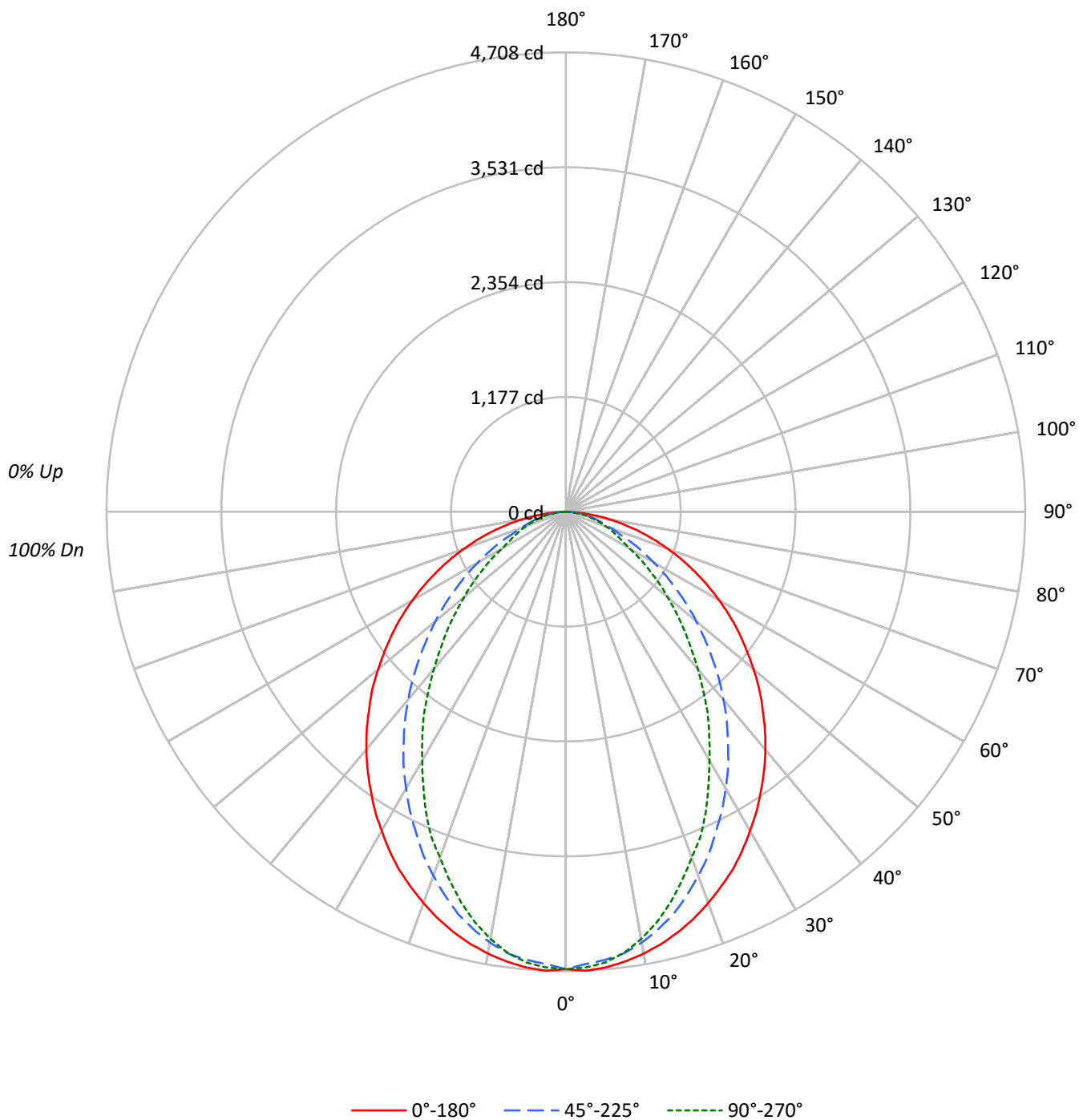
Lumens per Lamp: N/A
Luminaire Lumens: 9639.0 lumens
Efficiency: N/A
Efficacy: 73.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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

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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°	3421	3421	3421
5°	3434	3378	3397
10°	3408	3323	3295
15°	3369	3225	3132
20°	3315	3084	2929
25°	3259	2924	2733
30°	3182	2760	2481
35°	3107	2582	2260
40°	3031	2397	2005
45°	2942	2189	1773
50°	2852	1980	1546
55°	2758	1754	1328
60°	2650	1517	1102
65°	2528	1275	1004
70°	2381	1050	923
75°	2201	957	862
80°	1943	855	785
85°	1527	674	674

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2942 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.3	4.6
10°-20°	1205.8	12.5
20°-30°	1693.0	17.6
30°-40°	1845.4	19.1
40°-50°	1696.2	17.6
50°-60°	1332.1	13.8
60°-70°	867.0	9.0
70°-80°	446.3	4.6
80°-90°	113.9	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°	3338.0	34.6
0°-40°	5183.5	53.8
0°-60°	8211.7	85.2
0°-90°	9639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9639.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4687	4687	4687	4687	4687	
5°	4687	4666	4610	4648	4636	444
15°	4458	4411	4267	4186	4144	1256
25°	4046	3910	3631	3457	3393	1861
35°	3487	3270	2897	2630	2536	2182
45°	2850	2566	2121	1819	1718	2201
55°	2167	1836	1378	1124	1044	1937
65°	1463	1120	738	594	581	1451
75°	780	483	339	310	306	825
85°	182	93	80	80	80	219
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4686.8	4686.8	4686.8	4686.8	4686.8
2.5°	4708.0	4686.8	4640.0	4682.8	4674.2
5°	4686.8	4665.7	4610.3	4648.5	4636.0
7.5°	4648.5	4623.3	4564.0	4580.6	4559.4
10°	4597.7	4568.0	4483.4	4470.3	4445.2
12.5°	4534.2	4496.0	4381.2	4356.1	4309.3
15°	4457.8	4411.0	4267.0	4186.3	4144.1
17.5°	4368.6	4300.7	4122.5	4029.4	3961.4
20°	4267.0	4181.9	3969.9	3864.2	3770.6
22.5°	4156.7	4059.1	3812.9	3668.9	3605.5
25°	4046.5	3910.5	3630.6	3456.9	3393.0
27.5°	3915.0	3770.6	3461.0	3261.7	3164.0
30°	3775.1	3613.6	3274.2	3058.2	2943.5
32.5°	3639.2	3443.9	3096.5	2841.8	2735.6
35°	3486.7	3270.2	2897.1	2629.8	2536.2
37.5°	3338.1	3104.6	2710.4	2417.4	2311.7
40°	3181.1	2926.9	2515.1	2214.0	2103.8
42.5°	3019.9	2748.6	2320.3	2006.1	1900.4
45°	2850.3	2566.0	2120.9	1819.4	1717.6
47.5°	2689.2	2388.2	1930.1	1628.6	1535.4
50°	2511.1	2210.0	1743.3	1450.4	1361.7
52.5°	2336.9	2018.7	1565.1	1285.2	1204.7
55°	2167.3	1836.5	1378.4	1124.1	1043.6
57.5°	1993.5	1654.2	1213.2	975.6	907.7
60°	1815.3	1476.0	1039.0	823.1	755.1
62.5°	1641.7	1302.3	890.6	687.2	653.4
65°	1463.4	1119.6	738.0	594.0	581.0
67.5°	1293.8	949.9	594.0	521.5	509.0
70°	1115.6	784.8	491.9	449.5	432.4
72.5°	945.9	631.8	411.3	377.5	369.0
75°	780.3	483.3	339.3	309.6	305.5
77.5°	615.2	343.3	267.3	250.2	241.6
80°	462.2	246.2	203.4	186.7	186.7
82.5°	322.2	165.6	140.0	131.4	131.4
85°	182.3	93.2	80.5	80.5	80.5
87.5°	67.9	33.7	33.7	29.7	29.7
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	15.51	17.03	15.87	17.34	17.66	11.47	12.99	11.83	13.30	13.62
	3H	17.27	18.64	17.65	18.97	19.33	12.73	14.10	13.11	14.43	14.79
	4H	17.94	19.22	18.34	19.57	19.95	13.24	14.52	13.64	14.86	15.24
	6H	18.43	19.61	18.84	19.98	20.37	13.62	14.80	14.03	15.17	15.56
	8H	18.59	19.72	19.02	20.11	20.51	13.74	14.87	14.17	15.26	15.66
	12H	18.70	19.78	19.13	20.16	20.59	13.82	14.90	14.25	15.28	15.71
4H	2H	15.61	16.89	16.01	17.24	17.62	12.16	13.44	12.56	13.79	14.17
	3H	17.55	18.61	17.96	19.01	19.41	13.61	14.67	14.02	15.07	15.47
	4H	18.29	19.25	18.73	19.67	20.11	14.21	15.16	14.64	15.58	16.02
	6H	18.89	19.72	19.34	20.16	20.62	14.69	15.53	15.15	15.97	16.43
	8H	19.10	19.88	19.56	20.32	20.79	14.86	15.63	15.32	16.08	16.55
	12H	19.25	19.95	19.74	20.43	20.90	14.97	15.67	15.46	16.15	16.62
8H	4H	18.32	19.10	18.78	19.54	20.01	14.56	15.34	15.02	15.78	16.25
	6H	18.96	19.60	19.45	20.09	20.57	15.15	15.79	15.64	16.28	16.76
	8H	19.21	19.78	19.72	20.29	20.78	15.37	15.94	15.88	16.45	16.94
	12H	19.41	19.92	19.92	20.41	20.98	15.55	16.06	16.06	16.55	17.11
12H	4H	18.30	19.00	18.79	19.48	19.95	14.60	15.30	15.09	15.78	16.25
	6H	18.94	19.51	19.45	20.02	20.51	15.21	15.79	15.72	16.30	16.79
	8H	19.22	19.73	19.73	20.22	20.79	15.48	15.99	15.99	16.49	17.05