

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: P930769

Luminaire Tested: DFN2DS-PN4F0-110DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930769
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-PN4F0-110DS930-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

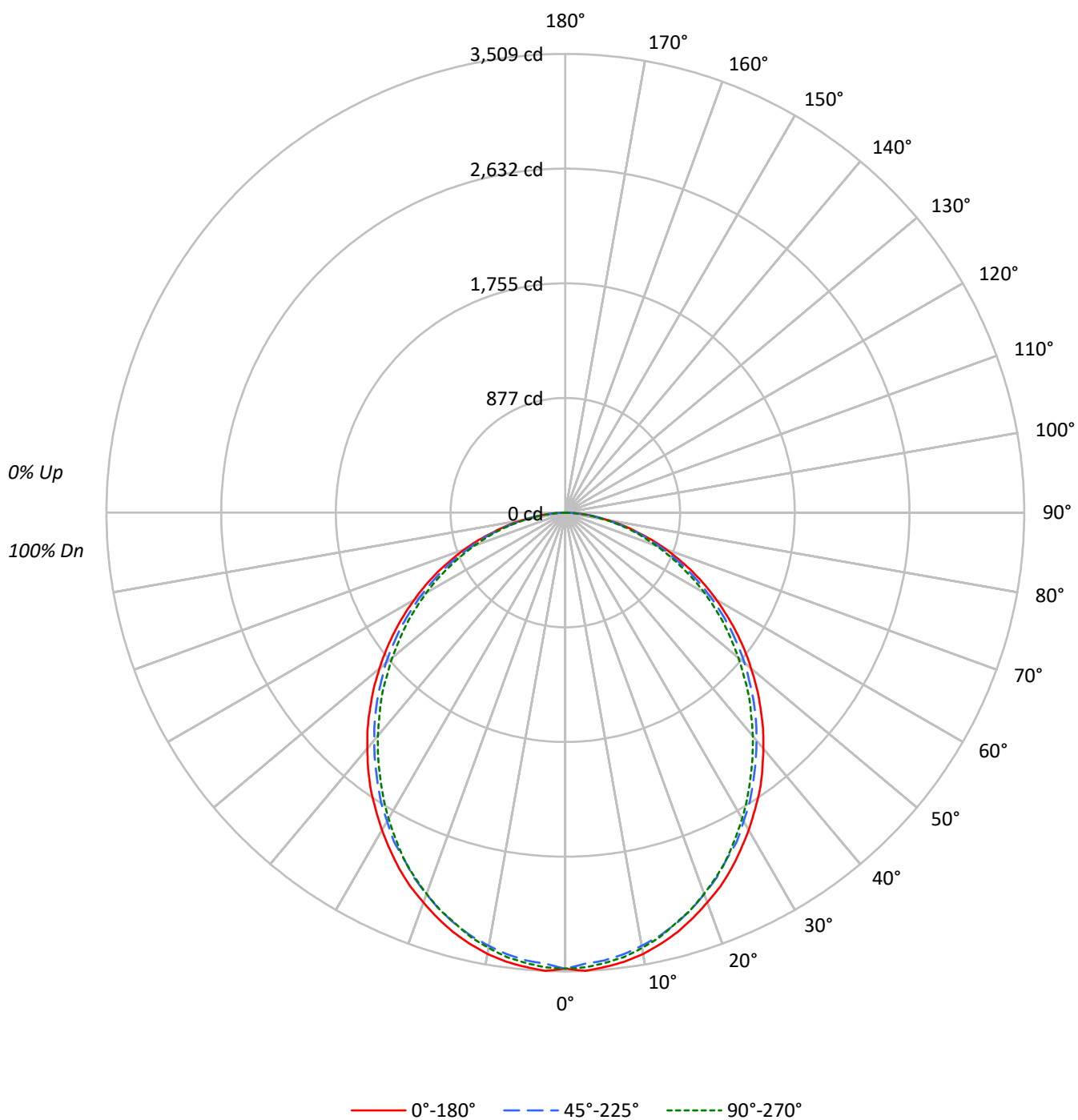
Lumens per Lamp: N/A
Luminaire Lumens: 8875.4 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 119
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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°	2546	2546	2546
5°	2556	2519	2534
10°	2541	2494	2506
15°	2509	2461	2459
20°	2465	2413	2410
25°	2421	2353	2353
30°	2364	2299	2279
35°	2311	2233	2200
40°	2244	2167	2126
45°	2178	2102	2050
50°	2106	2034	1962
55°	2032	1955	1883
60°	1949	1861	1792
65°	1860	1767	1686
70°	1747	1653	1575
75°	1589	1523	1485
80°	1411	1367	1297
85°	1151	1097	983

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2178 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	328.3	3.7
10°-20°	923.8	10.4
20°-30°	1357.6	15.3
30°-40°	1576.7	17.8
40°-50°	1574.8	17.7
50°-60°	1373.2	15.5
60°-70°	1015.1	11.4
70°-80°	574.3	6.5
80°-90°	151.6	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°	2609.7	29.4
0°-40°	4186.4	47.2
0°-60°	7134.4	80.4
0°-90°	8875.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8875.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3488	3488	3488	3488	3488	
5°	3488	3475	3438	3465	3458	331
15°	3321	3301	3257	3270	3254	935
25°	3005	2979	2922	2928	2922	1383
35°	2593	2560	2506	2485	2469	1619
45°	2110	2086	2036	1999	1986	1628
55°	1597	1576	1536	1496	1479	1428
65°	1077	1057	1023	993	976	1065
75°	563	557	540	520	527	601
85°	137	134	131	121	117	162
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3488.4	3488.4	3488.4	3488.4	3488.4
2.5°	3508.6	3491.9	3454.9	3488.4	3481.9
5°	3488.4	3475.2	3438.2	3464.8	3458.5
7.5°	3464.8	3444.9	3407.9	3435.0	3428.2
10°	3428.2	3404.7	3364.5	3391.1	3381.2
12.5°	3377.7	3357.7	3317.5	3334.2	3327.5
15°	3320.7	3300.8	3257.0	3270.5	3253.8
17.5°	3250.2	3230.3	3186.6	3203.3	3186.6
20°	3173.0	3153.1	3106.1	3116.1	3102.9
22.5°	3096.2	3065.9	3022.1	3022.1	3015.3
25°	3005.4	2978.7	2921.8	2928.2	2921.8
27.5°	2904.7	2881.2	2837.7	2827.8	2811.1
30°	2804.3	2777.3	2727.1	2717.1	2703.6
32.5°	2696.8	2676.9	2623.2	2602.9	2589.3
35°	2592.9	2559.5	2505.7	2485.4	2468.7
37.5°	2475.5	2445.2	2391.5	2368.0	2351.3
40°	2354.9	2327.8	2274.1	2244.2	2230.7
42.5°	2237.4	2210.4	2157.0	2123.2	2103.3
45°	2110.0	2086.5	2036.0	1999.4	1985.8
47.5°	1985.8	1962.4	1908.6	1871.6	1851.6
50°	1854.9	1838.2	1791.1	1744.2	1727.5
52.5°	1727.5	1703.9	1660.6	1623.5	1600.0
55°	1596.8	1576.5	1536.4	1496.1	1479.4
57.5°	1465.9	1449.2	1405.4	1365.1	1351.6
60°	1334.9	1321.8	1274.7	1237.7	1227.8
62.5°	1207.5	1184.0	1150.5	1117.1	1103.6
65°	1076.9	1056.6	1023.2	992.9	976.2
67.5°	942.7	925.7	895.8	872.3	858.8
70°	818.5	805.0	774.7	751.3	738.1
72.5°	691.1	677.6	660.9	637.4	627.4
75°	563.3	557.0	539.9	520.0	526.7
77.5°	449.5	435.9	429.2	419.2	409.3
80°	335.6	332.0	325.3	315.3	308.6
82.5°	228.1	228.1	224.9	211.4	211.4
85°	137.4	134.1	131.0	120.6	117.4
87.5°	60.5	53.7	46.9	37.0	33.4
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	14.53	16.14	14.90	16.45	16.77	14.09	15.70	14.45	16.01	16.32
	3H	16.28	17.73	16.66	18.06	18.42	15.79	17.24	16.17	17.57	17.93
	4H	16.93	18.30	17.32	18.64	19.02	16.43	17.80	16.83	18.15	18.52
	6H	17.40	18.66	17.81	19.03	19.42	16.89	18.16	17.31	18.53	18.92
	8H	17.54	18.75	17.96	19.14	19.54	17.04	18.25	17.46	18.64	19.03
	12H	17.63	18.79	18.06	19.17	19.60	17.12	18.28	17.55	18.66	19.09
4H	2H	15.09	16.46	15.49	16.81	17.18	14.74	16.11	15.14	16.45	16.83
	3H	17.07	18.21	17.48	18.61	19.01	16.66	17.80	17.07	18.20	18.60
	4H	17.84	18.88	18.27	19.29	19.73	17.42	18.45	17.85	18.87	19.30
	6H	18.44	19.34	18.89	19.78	20.24	18.01	18.91	18.46	19.35	19.81
	8H	18.63	19.47	19.09	19.92	20.38	18.19	19.04	18.65	19.48	19.94
	12H	18.76	19.52	19.24	20.00	20.47	18.31	19.07	18.79	19.54	20.01
8H	4H	18.12	18.96	18.58	19.40	19.87	17.74	18.59	18.20	19.03	19.50
	6H	18.83	19.53	19.32	20.02	20.50	18.45	19.15	18.94	19.64	20.11
	8H	19.09	19.72	19.60	20.23	20.71	18.70	19.33	19.21	19.83	20.32
	12H	19.29	19.85	19.80	20.34	20.90	18.88	19.43	19.38	19.92	20.49
12H	4H	18.14	18.90	18.62	19.38	19.85	17.78	18.54	18.26	19.01	19.48
	6H	18.87	19.51	19.38	20.01	20.50	18.51	19.14	19.02	19.65	20.13
	8H	19.19	19.75	19.70	20.24	20.80	18.81	19.37	19.32	19.86	20.42