

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: P930772

Luminaire Tested: DFN2DS-PN4F0-110DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930772
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-PN4F0-110DS935-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

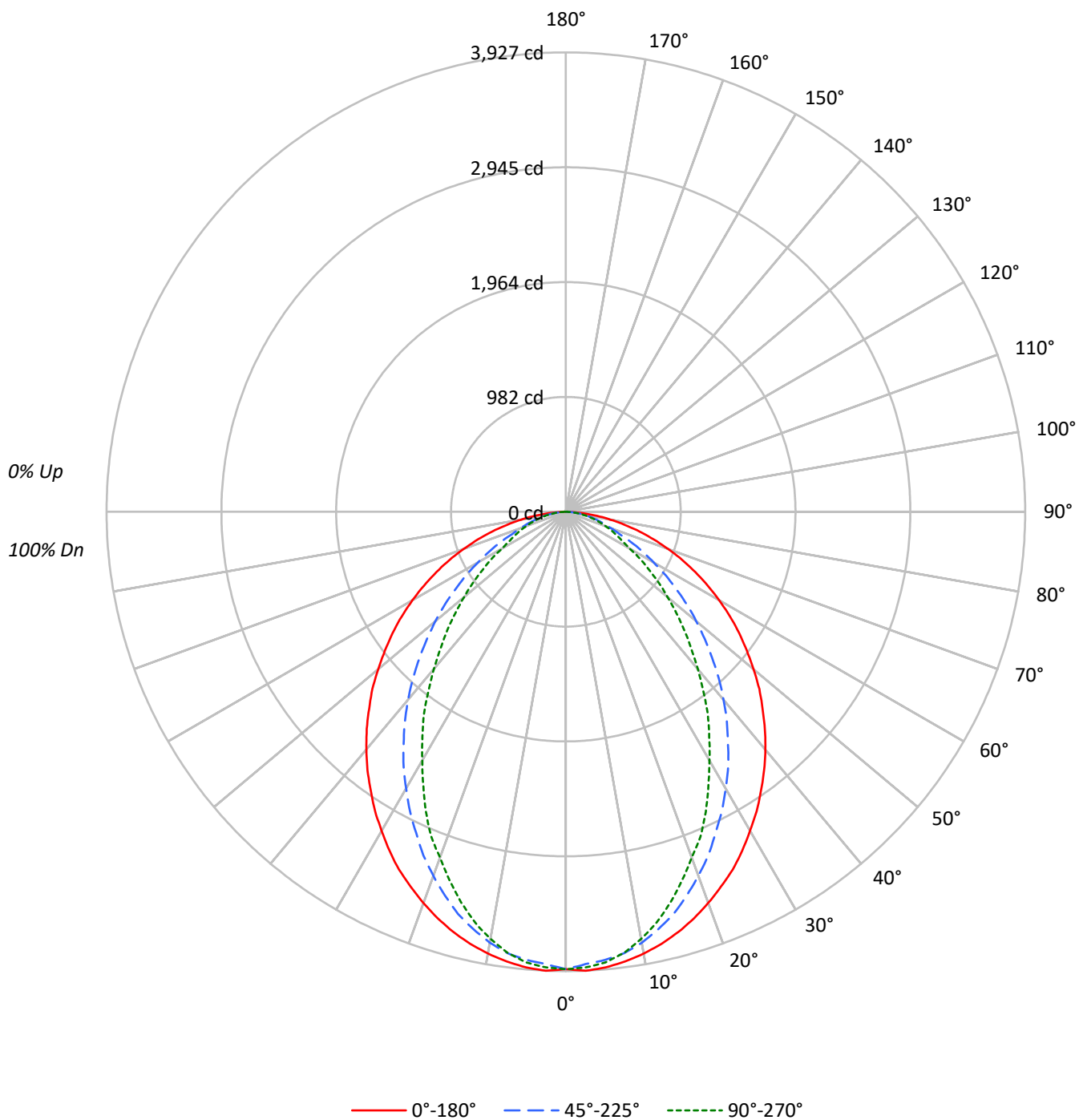
Lumens per Lamp: N/A
Luminaire Lumens: 8041.0 lumens
Efficiency: N/A
Efficacy: 67.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 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	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°	2854	2854	2854
5°	2865	2818	2834
10°	2843	2772	2749
15°	2810	2690	2612
20°	2765	2573	2443
25°	2719	2439	2280
30°	2654	2302	2070
35°	2592	2154	1885
40°	2529	1999	1672
45°	2455	1826	1479
50°	2379	1652	1290
55°	2301	1463	1108
60°	2211	1265	920
65°	2109	1063	837
70°	1986	876	770
75°	1836	798	719
80°	1621	713	655
85°	1273	563	563

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2455 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.4	4.6
10°-20°	1005.9	12.5
20°-30°	1412.3	17.6
30°-40°	1539.5	19.1
40°-50°	1414.9	17.6
50°-60°	1111.2	13.8
60°-70°	723.3	9.0
70°-80°	372.3	4.6
80°-90°	95.1	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°	2784.6	34.6
0°-40°	4324.1	53.8
0°-60°	6850.3	85.2
0°-90°	8041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3910	3910	3910	3910	3910	
5°	3910	3892	3846	3878	3867	371
15°	3719	3680	3560	3492	3457	1048
25°	3376	3262	3029	2884	2830	1552
35°	2909	2728	2417	2194	2116	1821
45°	2378	2140	1769	1518	1433	1836
55°	1808	1532	1150	938	871	1616
65°	1221	934	616	496	485	1210
75°	651	403	283	258	255	688
85°	152	78	67	67	67	182
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3909.8	3909.8	3909.8	3909.8	3909.8
2.5°	3927.4	3909.8	3870.8	3906.5	3899.3
5°	3909.8	3892.2	3846.0	3877.9	3867.4
7.5°	3877.9	3856.8	3807.3	3821.2	3803.5
10°	3835.5	3810.7	3740.1	3729.2	3708.2
12.5°	3782.5	3750.6	3654.9	3633.8	3594.8
15°	3718.7	3679.7	3559.5	3492.4	3457.0
17.5°	3644.4	3587.7	3439.1	3361.3	3304.6
20°	3559.5	3488.6	3311.8	3223.5	3145.4
22.5°	3467.6	3386.1	3180.8	3060.7	3007.7
25°	3375.6	3262.2	3028.7	2883.8	2830.5
27.5°	3266.0	3145.4	2887.2	2720.9	2639.4
30°	3149.2	3014.5	2731.4	2551.2	2455.5
32.5°	3035.9	2872.9	2583.1	2370.7	2282.1
35°	2908.6	2728.0	2416.9	2193.9	2115.8
37.5°	2784.8	2589.9	2261.0	2016.6	1928.5
40°	2653.7	2441.6	2098.1	1846.9	1755.0
42.5°	2519.3	2292.9	1935.6	1673.6	1585.3
45°	2377.8	2140.5	1769.3	1517.7	1432.9
47.5°	2243.4	1992.3	1610.1	1358.5	1280.9
50°	2094.7	1843.6	1454.3	1209.9	1136.0
52.5°	1949.4	1684.1	1305.7	1072.2	1004.9
55°	1807.9	1532.0	1149.8	937.7	870.6
57.5°	1663.1	1380.0	1012.0	813.9	757.1
60°	1514.4	1231.3	866.8	686.6	630.0
62.5°	1369.5	1086.4	743.0	573.3	545.1
65°	1220.8	934.0	615.7	495.5	484.6
67.5°	1079.3	792.5	495.5	435.1	424.6
70°	930.6	654.7	410.3	375.0	360.8
72.5°	789.0	527.1	343.1	314.9	307.8
75°	650.9	403.2	283.0	258.3	254.9
77.5°	513.2	286.5	223.0	208.7	201.6
80°	385.5	205.4	169.7	155.8	155.8
82.5°	268.8	138.1	116.8	109.6	109.6
85°	152.0	77.7	67.2	67.2	67.2
87.5°	56.7	28.1	28.1	24.8	24.8
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	14.88	16.40	15.24	16.71	17.03	10.84	12.36	11.20	12.67	12.99
	3H	16.64	18.01	17.02	18.34	18.70	12.10	13.47	12.48	13.80	14.16
	4H	17.31	18.59	17.71	18.94	19.32	12.61	13.89	13.01	14.24	14.61
	6H	17.80	18.98	18.21	19.35	19.74	12.99	14.17	13.40	14.54	14.93
	8H	17.96	19.09	18.39	19.48	19.88	13.11	14.24	13.54	14.63	15.03
	12H	18.07	19.15	18.50	19.53	19.96	13.19	14.27	13.62	14.65	15.08
4H	2H	14.98	16.26	15.38	16.61	16.99	11.53	12.82	11.93	13.16	13.54
	3H	16.92	17.98	17.33	18.38	18.78	12.98	14.04	13.39	14.44	14.84
	4H	17.67	18.62	18.10	19.04	19.48	13.58	14.53	14.01	14.95	15.39
	6H	18.26	19.09	18.71	19.53	19.99	14.07	14.90	14.52	15.34	15.80
	8H	18.47	19.25	18.93	19.69	20.16	14.23	15.00	14.69	15.45	15.92
	12H	18.62	19.32	19.11	19.80	20.27	14.34	15.04	14.83	15.52	15.99
8H	4H	17.69	18.47	18.15	18.91	19.38	13.93	14.71	14.39	15.15	15.62
	6H	18.33	18.97	18.82	19.46	19.94	14.52	15.16	15.01	15.65	16.13
	8H	18.58	19.15	19.09	19.66	20.15	14.74	15.32	15.25	15.82	16.31
	12H	18.78	19.29	19.29	19.78	20.35	14.92	15.43	15.43	15.92	16.48
12H	4H	17.67	18.37	18.16	18.85	19.32	13.97	14.67	14.46	15.15	15.62
	6H	18.31	18.89	18.82	19.39	19.88	14.58	15.16	15.09	15.67	16.16
	8H	18.59	19.10	19.10	19.59	20.16	14.85	15.36	15.36	15.86	16.42