

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: P930740

Luminaire Tested: DFN2DS-PN4F0-090DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930740
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-PN4F0-090DS950-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

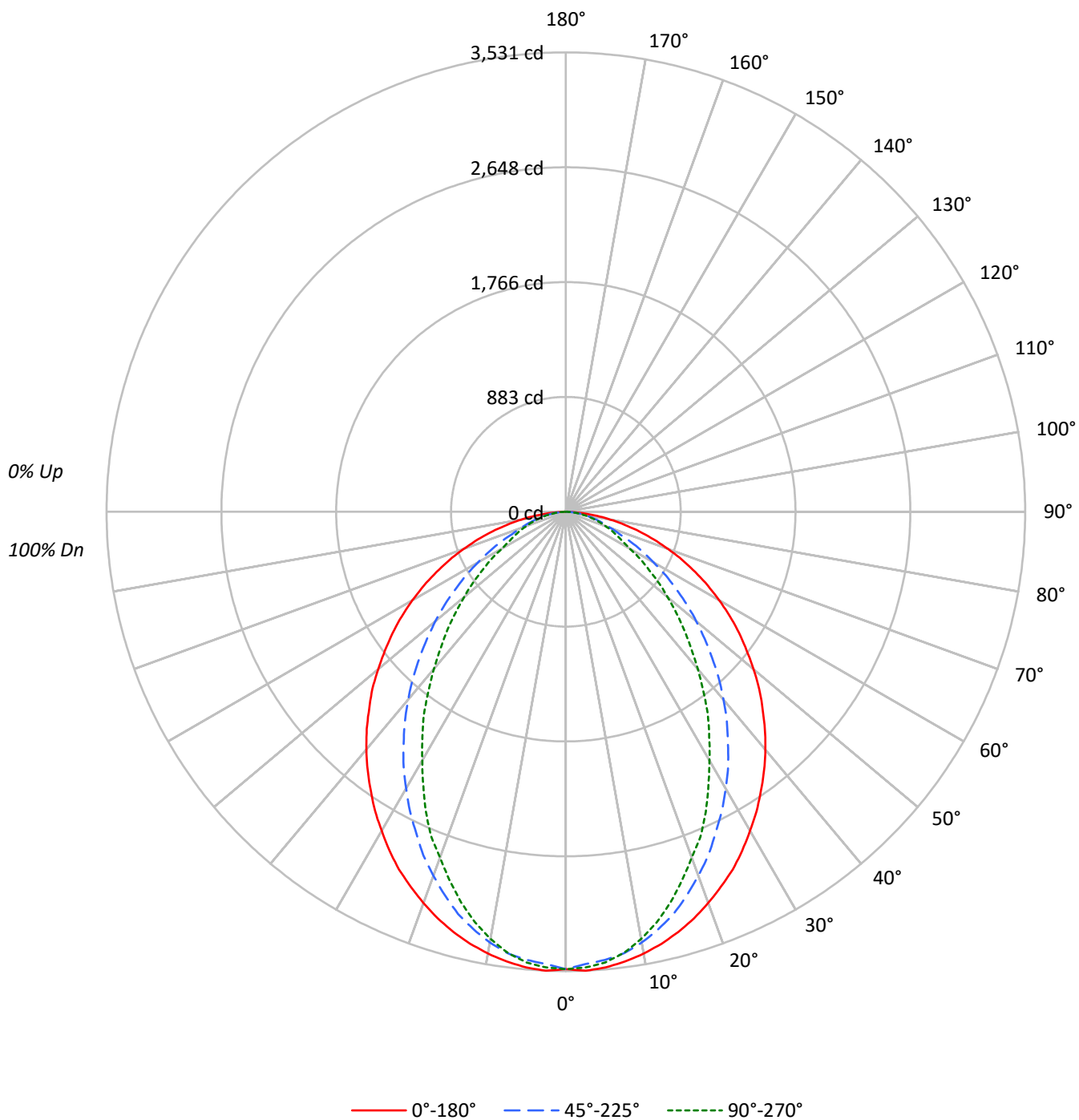
Lumens per Lamp: N/A
Luminaire Lumens: 7229.2 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 93.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9963
Total Harmonic Distortion (THDi): 0.065
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930740

CATALOG NUMBER: DFN2DS-PN4F0-090DS950-RLL

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°	2566	2566	2566
5°	2576	2534	2548
10°	2556	2492	2471
15°	2527	2418	2349
20°	2486	2313	2197
25°	2444	2193	2050
30°	2386	2070	1861
35°	2330	1936	1695
40°	2273	1797	1504
45°	2207	1642	1330
50°	2139	1485	1160
55°	2069	1316	996
60°	1988	1138	827
65°	1896	956	753
70°	1786	787	692
75°	1650	718	646
80°	1457	641	589
85°	1144	506	506

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2207 cd/sqm

TEST NUMBER: P930740

CATALOG NUMBER: DFN2DS-PN4F0-090DS950-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.4	4.6
10°-20°	904.4	12.5
20°-30°	1269.7	17.6
30°-40°	1384.1	19.1
40°-50°	1272.1	17.6
50°-60°	999.0	13.8
60°-70°	650.3	9.0
70°-80°	334.7	4.6
80°-90°	85.5	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°	2503.5	34.6
0°-40°	3887.6	53.8
0°-60°	6158.8	85.2
0°-90°	7229.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7229.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3515	3515	3515	3515	3515	
5°	3515	3499	3458	3486	3477	333
15°	3343	3308	3200	3140	3108	942
25°	3035	2933	2723	2593	2545	1396
35°	2615	2453	2173	1972	1902	1637
45°	2138	1924	1591	1364	1288	1651
55°	1625	1377	1034	843	783	1452
65°	1098	840	554	446	436	1088
75°	585	362	254	232	229	619
85°	137	70	60	60	60	164
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-PN4F0-090DS950-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3515.1	3515.1	3515.1	3515.1	3515.1
2.5°	3531.0	3515.1	3480.0	3512.1	3505.7
5°	3515.1	3499.2	3457.8	3486.4	3476.9
7.5°	3486.4	3467.5	3423.0	3435.5	3419.6
10°	3448.3	3426.0	3362.6	3352.8	3333.9
12.5°	3400.7	3372.0	3286.0	3267.1	3231.9
15°	3343.3	3308.3	3200.2	3139.8	3108.1
17.5°	3276.5	3225.6	3091.9	3022.0	2971.1
20°	3200.2	3136.5	2977.4	2898.1	2827.9
22.5°	3117.6	3044.3	2859.7	2751.7	2704.1
25°	3034.9	2932.9	2723.0	2592.7	2544.8
27.5°	2936.3	2827.9	2595.7	2446.2	2373.0
30°	2831.3	2710.2	2455.7	2293.7	2207.6
32.5°	2729.3	2582.9	2322.3	2131.4	2051.7
35°	2615.0	2452.7	2172.8	1972.4	1902.2
37.5°	2503.6	2328.5	2032.8	1813.1	1733.8
40°	2385.8	2195.1	1886.3	1660.6	1577.9
42.5°	2265.0	2061.5	1740.1	1504.6	1425.2
45°	2137.8	1924.5	1590.6	1364.5	1288.2
47.5°	2016.9	1791.2	1447.6	1221.4	1151.6
50°	1883.3	1657.4	1307.5	1087.8	1021.3
52.5°	1752.7	1514.1	1173.9	963.9	903.5
55°	1625.4	1377.3	1033.7	843.1	782.6
57.5°	1495.2	1240.7	909.9	731.7	680.8
60°	1361.5	1107.0	779.3	617.3	566.3
62.5°	1231.2	976.8	667.9	515.4	490.1
65°	1097.5	839.7	553.5	445.5	435.7
67.5°	970.3	712.4	445.5	391.1	381.7
70°	836.7	588.6	368.9	337.2	324.3
72.5°	709.4	473.8	308.4	283.1	276.8
75°	585.2	362.5	254.5	232.2	229.2
77.5°	461.3	257.5	200.4	187.7	181.3
80°	346.6	184.7	152.5	140.0	140.0
82.5°	241.6	124.2	105.0	98.6	98.6
85°	136.6	69.8	60.4	60.4	60.4
87.5°	50.9	25.3	25.3	22.3	22.3
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	14.51	16.03	14.87	16.34	16.66	10.47	11.99	10.83	12.30	12.62
	3H	16.27	17.64	16.65	17.97	18.33	11.73	13.10	12.11	13.43	13.79
	4H	16.94	18.22	17.34	18.57	18.95	12.24	13.52	12.64	13.87	14.24
	6H	17.43	18.61	17.84	18.98	19.37	12.62	13.80	13.03	14.17	14.56
	8H	17.59	18.72	18.02	19.11	19.51	12.74	13.87	13.17	14.26	14.66
	12H	17.70	18.78	18.13	19.16	19.59	12.82	13.90	13.25	14.28	14.71
4H	2H	14.61	15.89	15.01	16.24	16.62	11.16	12.45	11.56	12.79	13.17
	3H	16.55	17.61	16.96	18.01	18.41	12.61	13.67	13.02	14.07	14.47
	4H	17.30	18.25	17.73	18.67	19.11	13.21	14.16	13.64	14.58	15.02
	6H	17.89	18.72	18.34	19.16	19.62	13.70	14.53	14.15	14.97	15.43
	8H	18.10	18.88	18.56	19.32	19.79	13.86	14.63	14.32	15.08	15.55
	12H	18.25	18.95	18.74	19.43	19.90	13.97	14.67	14.46	15.15	15.62
8H	4H	17.32	18.10	17.78	18.54	19.01	13.56	14.34	14.02	14.78	15.25
	6H	17.96	18.60	18.45	19.09	19.57	14.15	14.79	14.64	15.28	15.76
	8H	18.21	18.78	18.72	19.29	19.78	14.37	14.95	14.88	15.45	15.94
	12H	18.41	18.92	18.92	19.41	19.98	14.55	15.06	15.06	15.55	16.11
12H	4H	17.30	18.00	17.79	18.48	18.95	13.60	14.30	14.09	14.78	15.25
	6H	17.94	18.52	18.45	19.03	19.51	14.21	14.79	14.72	15.30	15.79
	8H	18.22	18.73	18.73	19.22	19.79	14.48	14.99	14.99	15.49	16.05