

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: P930745

Luminaire Tested: DFN2DS-PN4F0-100DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930745
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-PN4F0-100DS840-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

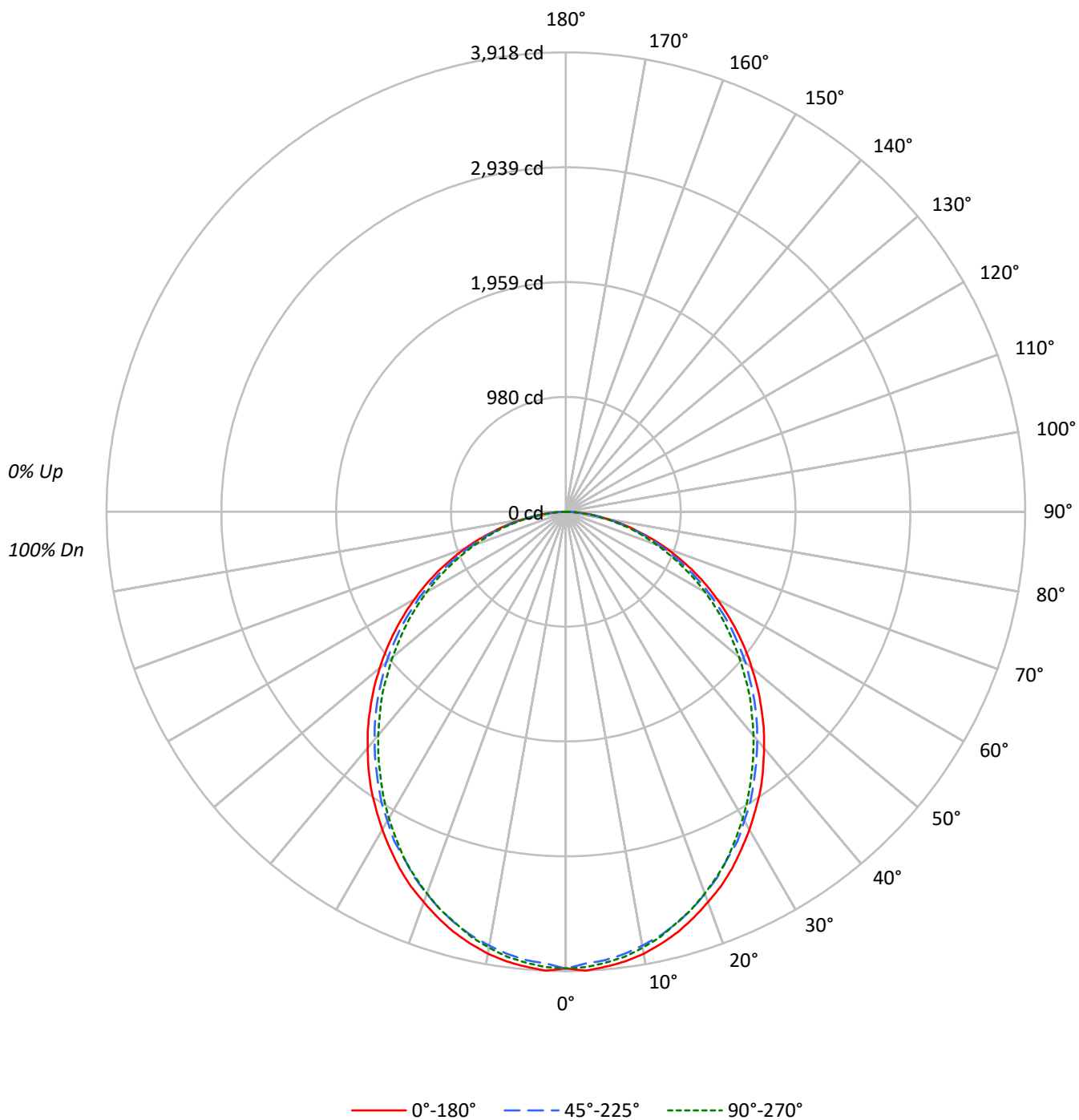
Lumens per Lamp: N/A
Luminaire Lumens: 9909.9 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 105.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9952
Total Harmonic Distortion (THDi): 0.069
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930745

CATALOG NUMBER: DFN2DS-PN4F0-100DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930745

CATALOG NUMBER: DFN2DS-PN4F0-100DS840-FLL

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°	2843	2843	2843
5°	2854	2813	2830
10°	2837	2785	2798
15°	2802	2748	2746
20°	2752	2694	2691
25°	2703	2628	2628
30°	2639	2566	2544
35°	2580	2493	2456
40°	2505	2419	2373
45°	2432	2347	2289
50°	2352	2271	2190
55°	2269	2183	2102
60°	2176	2078	2001
65°	2077	1973	1883
70°	1950	1846	1759
75°	1774	1700	1659
80°	1575	1527	1448
85°	1285	1224	1098

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2432 cd/sqm

TEST NUMBER: P930745

CATALOG NUMBER: DFN2DS-PN4F0-100DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.6	3.7
10°-20°	1031.5	10.4
20°-30°	1515.8	15.3
30°-40°	1760.5	17.8
40°-50°	1758.4	17.7
50°-60°	1533.2	15.5
60°-70°	1133.4	11.4
70°-80°	641.3	6.5
80°-90°	169.3	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°	2913.9	29.4
0°-40°	4674.4	47.2
0°-60°	7966.0	80.4
0°-90°	9909.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9909.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3895	3895	3895	3895	3895	
5°	3895	3880	3839	3869	3862	370
15°	3708	3686	3637	3652	3633	1044
25°	3356	3326	3262	3270	3262	1544
35°	2895	2858	2798	2775	2756	1808
45°	2356	2330	2273	2232	2217	1818
55°	1783	1760	1715	1670	1652	1594
65°	1202	1180	1142	1109	1090	1189
75°	629	622	603	581	588	672
85°	153	150	146	135	131	180
90°	0	0	0	0	0	

TEST NUMBER: P930745

CATALOG NUMBER: DFN2DS-PN4F0-100DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3895.0	3895.0	3895.0	3895.0	3895.0
2.5°	3917.6	3898.9	3857.6	3895.0	3887.8
5°	3895.0	3880.3	3838.9	3868.8	3861.6
7.5°	3868.8	3846.4	3805.1	3835.3	3827.8
10°	3827.8	3801.6	3756.7	3786.5	3775.4
12.5°	3771.4	3749.1	3704.2	3722.9	3715.3
15°	3707.8	3685.6	3636.6	3651.7	3633.1
17.5°	3629.1	3606.9	3558.0	3576.7	3558.0
20°	3542.8	3520.6	3468.2	3479.3	3464.6
22.5°	3457.1	3423.3	3374.4	3374.4	3366.9
25°	3355.8	3325.9	3262.4	3269.5	3262.4
27.5°	3243.2	3217.0	3168.6	3157.5	3138.7
30°	3131.2	3101.0	3044.9	3033.8	3018.7
32.5°	3011.2	2989.0	2928.9	2906.3	2891.2
35°	2895.2	2857.9	2797.8	2775.2	2756.5
37.5°	2764.1	2730.2	2670.3	2644.0	2625.3
40°	2629.3	2599.1	2539.1	2505.8	2490.7
42.5°	2498.2	2468.0	2408.4	2370.7	2348.4
45°	2356.0	2329.7	2273.3	2232.3	2217.3
47.5°	2217.3	2191.1	2131.0	2089.7	2067.5
50°	2071.1	2052.4	1999.9	1947.4	1928.8
52.5°	1928.8	1902.6	1854.1	1812.8	1786.6
55°	1783.0	1760.4	1715.4	1670.5	1651.9
57.5°	1636.7	1618.0	1569.2	1524.3	1509.2
60°	1490.5	1475.8	1423.3	1382.0	1370.9
62.5°	1348.2	1322.0	1284.7	1247.3	1232.2
65°	1202.4	1179.8	1142.4	1108.6	1090.0
67.5°	1052.7	1033.5	1000.2	974.0	958.9
70°	913.9	898.8	865.1	838.8	824.1
72.5°	771.7	756.6	737.9	711.7	700.5
75°	629.0	621.9	602.8	580.6	588.1
77.5°	501.9	486.8	479.2	468.1	457.0
80°	374.7	370.8	363.2	352.1	344.5
82.5°	254.8	254.8	251.2	236.0	236.0
85°	153.4	149.8	146.2	134.7	131.1
87.5°	67.6	60.0	52.5	41.3	37.3
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930745

CATALOG NUMBER: DFN2DS-PN4F0-100DS840-FLL

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	14.91	16.52	15.28	16.84	17.15	14.47	16.08	14.83	16.39	16.71
	3H	16.66	18.12	17.04	18.44	18.80	16.17	17.63	16.55	17.95	18.31
	4H	17.31	18.68	17.71	19.03	19.40	16.81	18.18	17.21	18.53	18.91
	6H	17.78	19.05	18.19	19.41	19.80	17.28	18.55	17.69	18.91	19.30
	8H	17.92	19.13	18.35	19.52	19.92	17.42	18.63	17.84	19.02	19.42
	12H	18.01	19.17	18.44	19.55	19.98	17.50	18.66	17.93	19.04	19.47
4H	2H	15.47	16.84	15.87	17.19	17.57	15.12	16.49	15.52	16.84	17.21
	3H	17.45	18.59	17.86	18.99	19.39	17.04	18.19	17.45	18.59	18.99
	4H	18.22	19.26	18.66	19.67	20.11	17.80	18.84	18.23	19.25	19.69
	6H	18.82	19.73	19.28	20.17	20.62	18.39	19.29	18.84	19.73	20.19
	8H	19.01	19.86	19.47	20.30	20.77	18.57	19.42	19.03	19.86	20.33
	12H	19.14	19.90	19.62	20.38	20.85	18.69	19.45	19.17	19.93	20.40
8H	4H	18.50	19.34	18.96	19.79	20.25	18.12	18.97	18.58	19.41	19.88
	6H	19.21	19.92	19.71	20.40	20.88	18.83	19.53	19.33	20.02	20.50
	8H	19.47	20.10	19.98	20.61	21.10	19.08	19.71	19.59	20.22	20.70
	12H	19.67	20.23	20.18	20.72	21.28	19.26	19.82	19.77	20.31	20.87
12H	4H	18.52	19.28	19.00	19.76	20.23	18.16	18.92	18.64	19.40	19.86
	6H	19.26	19.89	19.77	20.40	20.88	18.89	19.52	19.40	20.03	20.51
	8H	19.57	20.13	20.08	20.62	21.18	19.19	19.75	19.70	20.24	20.80