

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: P930727

Luminaire Tested: DFN2DS-PN4F0-090DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930727
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-PN4F0-090DS840-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

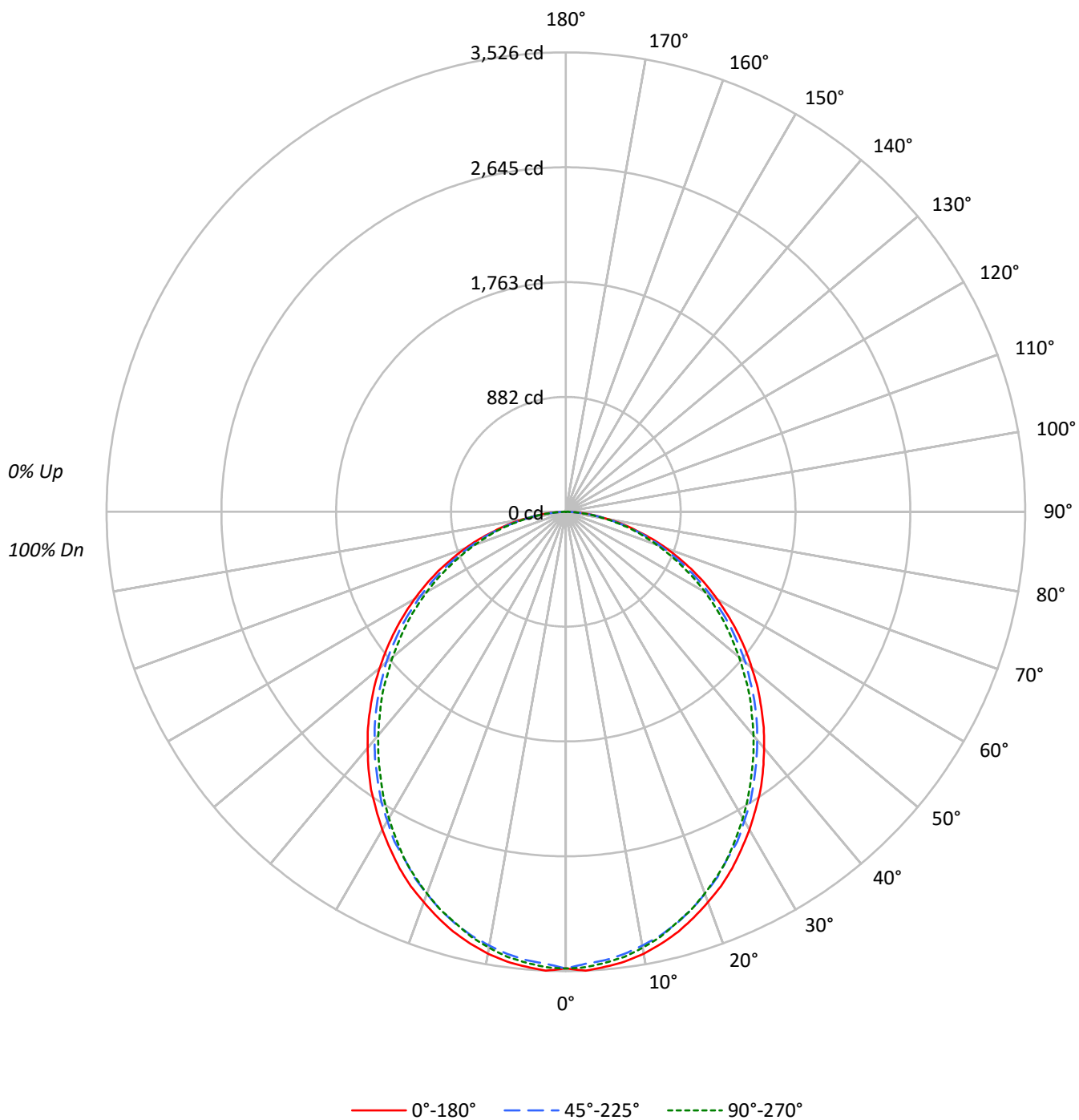
Lumens per Lamp: N/A
Luminaire Lumens: 8918.9 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P930727

CATALOG NUMBER: DFN2DS-PN4F0-090DS840-FLL

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°	2559	2559	2559
5°	2569	2532	2547
10°	2553	2506	2519
15°	2522	2473	2471
20°	2477	2425	2422
25°	2432	2365	2365
30°	2375	2310	2290
35°	2322	2244	2211
40°	2255	2178	2136
45°	2189	2112	2060
50°	2117	2044	1971
55°	2042	1965	1892
60°	1958	1870	1801
65°	1869	1776	1694
70°	1755	1662	1583
75°	1597	1530	1493
80°	1417	1374	1304
85°	1156	1102	988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2189 cd/sqm

TEST NUMBER: P930727

CATALOG NUMBER: DFN2DS-PN4F0-090DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	329.9	3.7
10°-20°	928.3	10.4
20°-30°	1364.2	15.3
30°-40°	1584.5	17.8
40°-50°	1582.5	17.7
50°-60°	1379.9	15.5
60°-70°	1020.1	11.4
70°-80°	577.1	6.5
80°-90°	152.3	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°	2622.5	29.4
0°-40°	4207.0	47.2
0°-60°	7169.4	80.4
0°-90°	8918.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8918.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3505	3505	3505	3505	3505	
5°	3505	3492	3455	3482	3475	333
15°	3337	3317	3273	3287	3270	940
25°	3020	2993	2936	2942	2936	1390
35°	2606	2572	2518	2498	2481	1627
45°	2120	2097	2046	2009	1996	1636
55°	1605	1584	1544	1504	1487	1435
65°	1082	1062	1028	998	981	1070
75°	566	560	542	522	529	604
85°	138	135	132	121	118	162
90°	0	0	0	0	0	

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CATALOG NUMBER: DFN2DS-PN4F0-090DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3505.4	3505.4	3505.4	3505.4	3505.4
2.5°	3525.8	3509.0	3471.9	3505.4	3499.0
5°	3505.4	3492.2	3455.1	3481.9	3475.4
7.5°	3481.9	3461.9	3424.6	3451.8	3445.0
10°	3445.0	3421.4	3381.0	3407.8	3397.8
12.5°	3394.2	3374.2	3333.8	3350.5	3343.8
15°	3337.0	3317.0	3273.0	3286.6	3269.8
17.5°	3266.2	3246.1	3202.2	3219.0	3202.2
20°	3188.6	3168.6	3121.3	3131.3	3118.1
22.5°	3111.3	3081.0	3036.9	3036.9	3030.1
25°	3020.1	2993.3	2936.1	2942.5	2936.1
27.5°	2918.9	2895.3	2851.7	2841.7	2824.9
30°	2818.1	2790.9	2740.4	2730.4	2716.9
32.5°	2710.1	2690.1	2636.0	2615.7	2602.1
35°	2605.7	2572.1	2518.0	2497.7	2480.9
37.5°	2487.7	2457.3	2403.2	2379.7	2362.9
40°	2366.4	2339.2	2285.2	2255.2	2241.6
42.5°	2248.3	2221.2	2167.6	2133.6	2113.6
45°	2120.3	2096.8	2045.9	2009.1	1995.6
47.5°	1995.6	1972.0	1917.9	1880.8	1860.8
50°	1864.0	1847.1	1799.9	1752.8	1735.9
52.5°	1735.9	1712.3	1668.7	1631.5	1607.9
55°	1604.7	1584.3	1543.8	1503.5	1486.7
57.5°	1473.1	1456.3	1412.3	1371.9	1358.3
60°	1341.4	1328.2	1281.0	1243.8	1233.8
62.5°	1213.4	1189.8	1156.2	1122.6	1109.0
65°	1082.2	1061.8	1028.1	997.8	981.0
67.5°	947.3	930.2	900.1	876.6	863.0
70°	822.5	808.9	778.6	755.0	741.7
72.5°	694.5	680.9	664.1	640.5	630.5
75°	566.2	559.7	542.5	522.5	529.3
77.5°	451.7	438.1	431.3	421.3	411.3
80°	337.2	333.6	326.8	316.8	310.1
82.5°	229.2	229.2	226.0	212.4	212.4
85°	138.0	134.8	131.6	121.2	118.0
87.5°	60.8	54.0	47.2	37.2	33.6
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	14.55	16.16	14.91	16.47	16.79	14.10	15.71	14.47	16.03	16.34
	3H	16.30	17.75	16.67	18.08	18.44	15.81	17.26	16.18	17.59	17.95
	4H	16.94	18.31	17.34	18.66	19.04	16.45	17.82	16.85	18.17	18.54
	6H	17.41	18.68	17.82	19.05	19.44	16.91	18.18	17.32	18.54	18.94
	8H	17.56	18.77	17.98	19.16	19.55	17.05	18.26	17.48	18.65	19.05
	12H	17.65	18.81	18.08	19.19	19.62	17.13	18.29	17.56	18.68	19.10
4H	2H	15.11	16.48	15.51	16.82	17.20	14.75	16.12	15.15	16.47	16.85
	3H	17.08	18.23	17.49	18.63	19.03	16.68	17.82	17.09	18.22	18.62
	4H	17.86	18.89	18.29	19.31	19.74	17.44	18.47	17.87	18.88	19.32
	6H	18.46	19.36	18.91	19.80	20.26	18.02	18.93	18.48	19.37	19.82
	8H	18.64	19.49	19.11	19.93	20.40	18.21	19.05	18.67	19.50	19.96
	12H	18.78	19.54	19.26	20.01	20.48	18.32	19.08	18.80	19.56	20.03
8H	4H	18.13	18.98	18.59	19.42	19.89	17.76	18.60	18.22	19.05	19.51
	6H	18.85	19.55	19.34	20.04	20.51	18.47	19.17	18.96	19.66	20.13
	8H	19.11	19.74	19.62	20.24	20.73	18.71	19.34	19.22	19.85	20.34
	12H	19.31	19.86	19.81	20.35	20.91	18.89	19.45	19.40	19.94	20.50
12H	4H	18.16	18.92	18.64	19.39	19.86	17.79	18.55	18.27	19.03	19.50
	6H	18.89	19.52	19.40	20.03	20.52	18.52	19.16	19.03	19.66	20.15
	8H	19.21	19.76	19.71	20.25	20.82	18.83	19.39	19.33	19.88	20.44

END OF REPORT