

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: P930773

Luminaire Tested: DFN2DS-PN4F0-110DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930773
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-PN4F0-110DS940-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

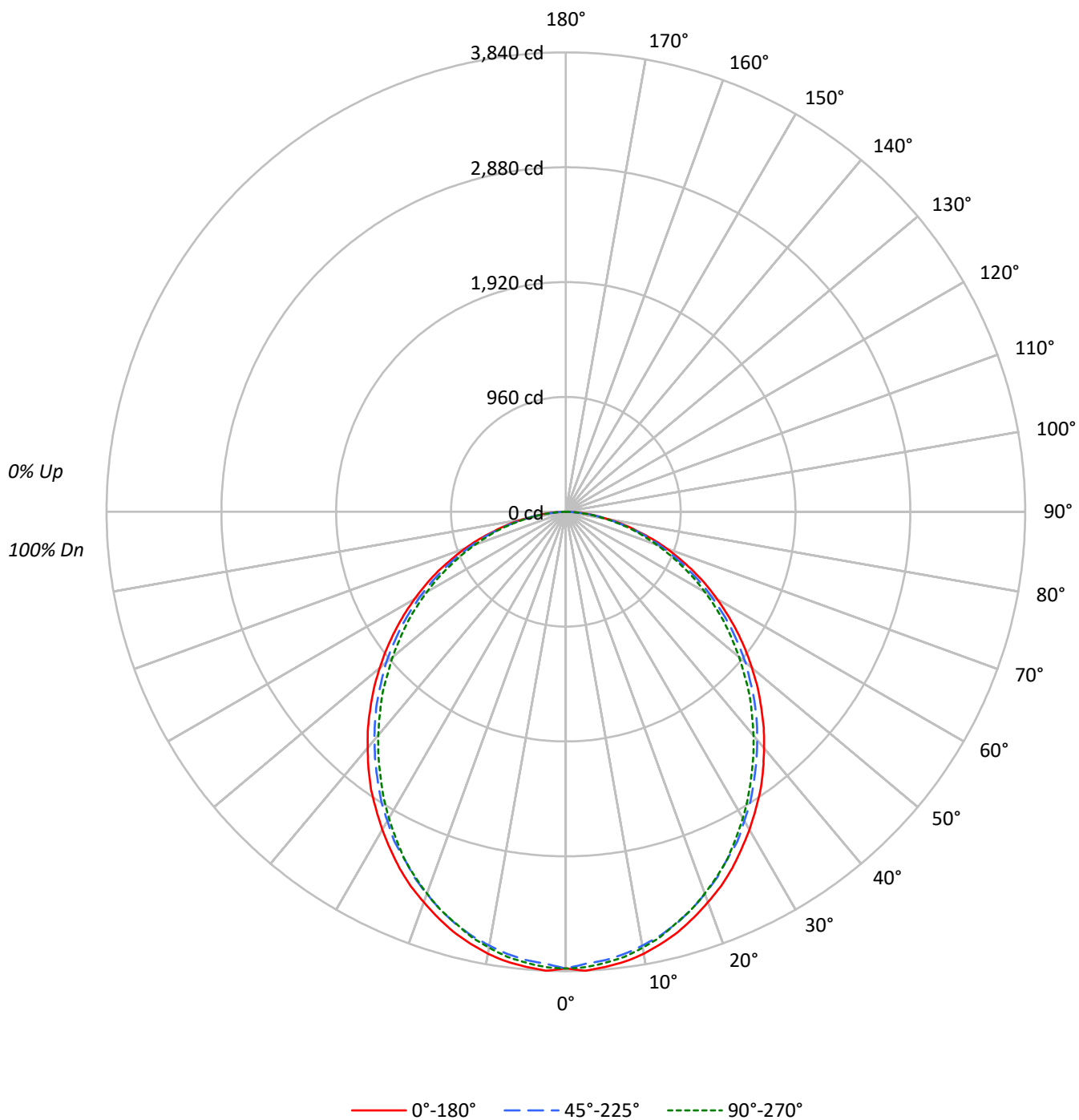
Lumens per Lamp: N/A
Luminaire Lumens: 9713.9 lumens
Efficiency: N/A
Efficacy: 81.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2787	2787	2787
5°	2798	2757	2774
10°	2781	2729	2743
15°	2747	2694	2691
20°	2698	2641	2638
25°	2649	2576	2576
30°	2587	2516	2494
35°	2529	2444	2408
40°	2456	2372	2326
45°	2384	2300	2244
50°	2305	2226	2147
55°	2224	2140	2061
60°	2133	2037	1962
65°	2036	1934	1845
70°	1912	1810	1724
75°	1739	1667	1626
80°	1544	1497	1420
85°	1260	1200	1076

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2384 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.3	3.7
10°-20°	1011.1	10.4
20°-30°	1485.8	15.3
30°-40°	1725.7	17.8
40°-50°	1723.6	17.7
50°-60°	1502.9	15.5
60°-70°	1111.0	11.4
70°-80°	628.6	6.5
80°-90°	165.9	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°	2856.2	29.4
0°-40°	4582.0	47.2
0°-60°	7808.4	80.4
0°-90°	9713.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9713.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3818	3818	3818	3818	3818	
5°	3818	3804	3763	3792	3785	362
15°	3634	3613	3565	3580	3561	1024
25°	3289	3260	3198	3205	3198	1514
35°	2838	2801	2742	2720	2702	1772
45°	2309	2284	2228	2188	2173	1782
55°	1748	1726	1682	1637	1619	1563
65°	1179	1156	1120	1087	1068	1165
75°	617	610	591	569	576	658
85°	150	147	143	132	128	177
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3817.9	3817.9	3817.9	3817.9	3817.9
2.5°	3840.1	3821.8	3781.3	3817.9	3810.9
5°	3817.9	3803.5	3763.0	3792.2	3785.2
7.5°	3792.2	3770.4	3729.9	3759.5	3752.1
10°	3752.1	3726.3	3682.4	3711.5	3700.6
12.5°	3696.8	3675.0	3631.0	3649.3	3641.9
15°	3634.5	3612.6	3564.7	3579.5	3561.2
17.5°	3557.3	3535.5	3487.6	3505.9	3487.6
20°	3472.8	3451.0	3399.6	3410.5	3396.1
22.5°	3388.7	3355.5	3307.6	3307.6	3300.2
25°	3289.3	3260.2	3197.8	3204.9	3197.8
27.5°	3179.1	3153.4	3105.9	3095.0	3076.7
30°	3069.3	3039.7	2984.7	2973.8	2959.0
32.5°	2951.6	2929.9	2871.0	2848.8	2834.0
35°	2837.9	2801.3	2742.5	2720.2	2702.0
37.5°	2709.4	2676.3	2617.5	2591.7	2573.4
40°	2577.3	2547.7	2488.9	2456.2	2441.4
42.5°	2448.8	2419.2	2360.8	2323.7	2302.0
45°	2309.4	2283.6	2228.3	2188.3	2173.4
47.5°	2173.4	2147.8	2088.9	2048.4	2026.5
50°	2030.1	2011.8	1960.3	1909.0	1890.7
52.5°	1890.7	1864.9	1817.4	1776.9	1751.2
55°	1747.7	1725.5	1681.5	1637.4	1619.2
57.5°	1604.4	1586.1	1538.2	1494.1	1479.3
60°	1461.0	1446.6	1395.2	1354.7	1343.8
62.5°	1321.6	1295.9	1259.2	1222.7	1207.9
65°	1178.6	1156.4	1119.8	1086.7	1068.4
67.5°	1031.8	1013.1	980.4	954.7	939.9
70°	895.8	881.0	847.9	822.2	807.8
72.5°	756.4	741.6	723.3	697.6	686.7
75°	616.6	609.6	590.9	569.1	576.5
77.5°	491.9	477.1	469.7	458.8	448.0
80°	367.3	363.4	356.0	345.1	337.7
82.5°	249.7	249.7	246.2	231.4	231.4
85°	150.4	146.8	143.3	132.0	128.5
87.5°	66.2	58.8	51.4	40.5	36.6
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	14.84	16.45	15.21	16.77	17.08	14.40	16.01	14.76	16.32	16.64
	3H	16.59	18.05	16.97	18.37	18.74	16.10	17.56	16.48	17.88	18.24
	4H	17.24	18.61	17.64	18.96	19.33	16.75	18.11	17.14	18.46	18.84
	6H	17.71	18.98	18.12	19.34	19.73	17.21	18.48	17.62	18.84	19.23
	8H	17.85	19.06	18.28	19.45	19.85	17.35	18.56	17.77	18.95	19.35
	12H	17.94	19.10	18.37	19.48	19.91	17.43	18.59	17.86	18.97	19.40
4H	2H	15.40	16.77	15.80	17.12	17.50	15.05	16.42	15.45	16.77	17.14
	3H	17.38	18.53	17.79	18.92	19.32	16.97	18.12	17.38	18.52	18.92
	4H	18.16	19.19	18.59	19.61	20.04	17.73	18.77	18.16	19.18	19.62
	6H	18.75	19.66	19.21	20.10	20.55	18.32	19.22	18.77	19.67	20.12
	8H	18.94	19.79	19.40	20.23	20.70	18.50	19.35	18.96	19.79	20.26
	12H	19.07	19.83	19.55	20.31	20.78	18.62	19.38	19.10	19.86	20.33
8H	4H	18.43	19.28	18.89	19.72	20.18	18.05	18.90	18.52	19.34	19.81
	6H	19.14	19.85	19.64	20.33	20.81	18.76	19.46	19.26	19.95	20.43
	8H	19.40	20.03	19.91	20.54	21.03	19.01	19.64	19.52	20.15	20.63
	12H	19.60	20.16	20.11	20.65	21.21	19.19	19.75	19.70	20.24	20.80
12H	4H	18.45	19.21	18.94	19.69	20.16	18.09	18.85	18.57	19.33	19.80
	6H	19.19	19.82	19.70	20.33	20.81	18.82	19.45	19.33	19.96	20.44
	8H	19.50	20.06	20.01	20.55	21.11	19.12	19.68	19.63	20.17	20.73

END OF REPORT

FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE

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