

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: P930755

Luminaire Tested: DFN2DS-PN4F0-100DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930755
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-PN4F0-100DS940-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

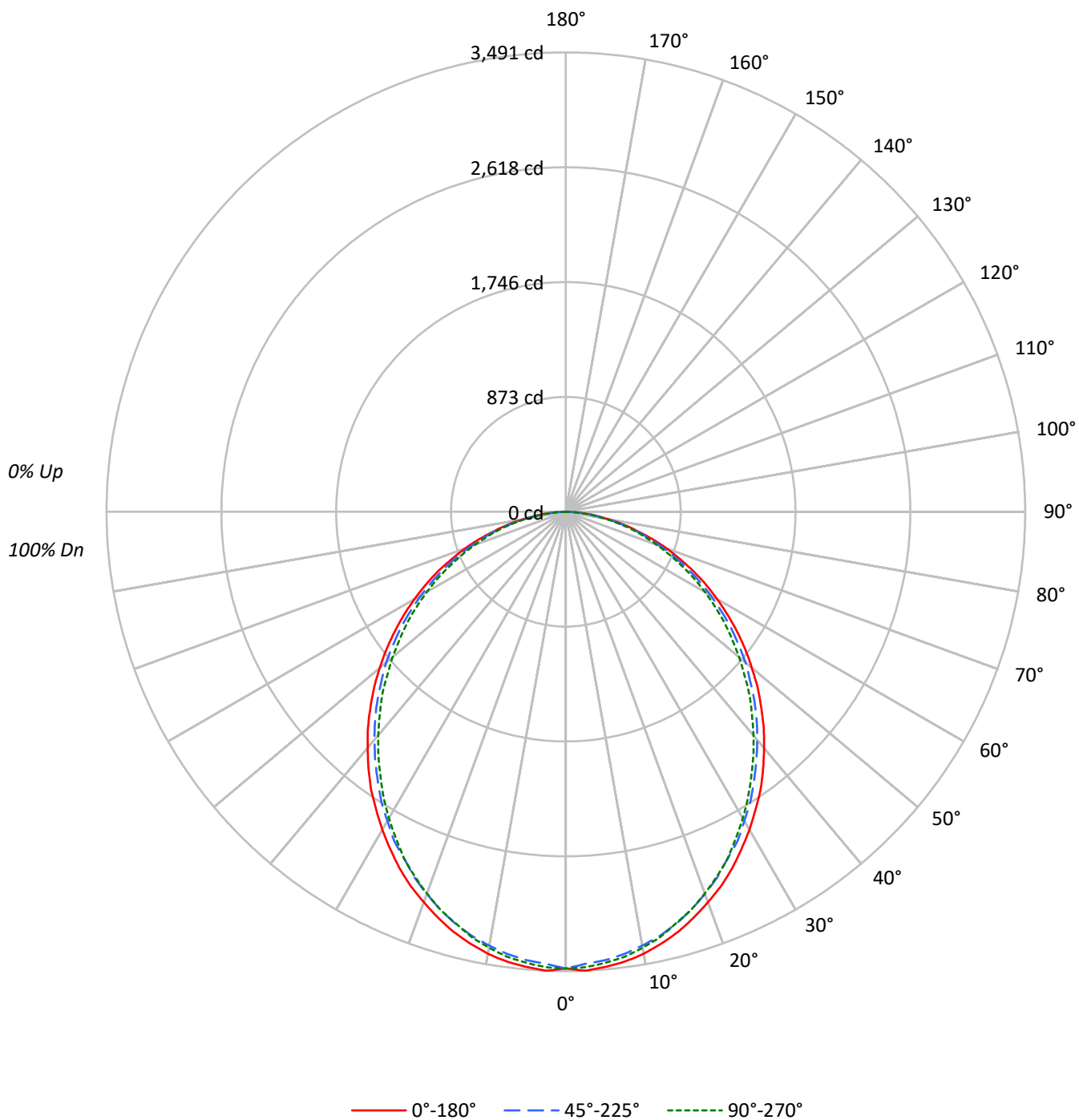
Lumens per Lamp: N/A
Luminaire Lumens: 8830.8 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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

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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	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°	2534	2534	2534
5°	2543	2507	2521
10°	2528	2481	2494
15°	2497	2449	2447
20°	2452	2401	2398
25°	2408	2341	2341
30°	2352	2287	2267
35°	2299	2222	2189
40°	2233	2156	2115
45°	2167	2091	2040
50°	2096	2024	1952
55°	2022	1945	1873
60°	1939	1852	1783
65°	1851	1758	1678
70°	1738	1645	1567
75°	1581	1515	1478
80°	1404	1360	1291
85°	1145	1091	979

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2167 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	326.7	3.7
10°-20°	919.1	10.4
20°-30°	1350.8	15.3
30°-40°	1568.8	17.8
40°-50°	1566.9	17.7
50°-60°	1366.3	15.5
60°-70°	1010.0	11.4
70°-80°	571.4	6.5
80°-90°	150.8	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°	2596.6	29.4
0°-40°	4165.4	47.2
0°-60°	7098.5	80.4
0°-90°	8830.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8830.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3471	3471	3471	3471	3471	
5°	3471	3458	3421	3448	3441	329
15°	3304	3284	3241	3254	3238	931
25°	2990	2964	2907	2914	2907	1376
35°	2580	2547	2493	2473	2456	1611
45°	2099	2076	2026	1989	1976	1620
55°	1589	1569	1529	1489	1472	1420
65°	1072	1051	1018	988	971	1059
75°	560	554	537	517	524	598
85°	137	134	130	120	117	161
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3470.9	3470.9	3470.9	3470.9	3470.9
2.5°	3491.0	3474.3	3437.5	3470.9	3464.4
5°	3470.9	3457.7	3420.9	3447.5	3441.1
7.5°	3447.5	3427.6	3390.8	3417.7	3411.0
10°	3411.0	3387.6	3347.6	3374.2	3364.3
12.5°	3360.7	3340.9	3300.8	3317.5	3310.7
15°	3304.1	3284.3	3240.6	3254.1	3237.5
17.5°	3233.9	3214.1	3170.5	3187.2	3170.5
20°	3157.1	3137.3	3090.5	3100.4	3087.3
22.5°	3080.6	3050.6	3006.9	3006.9	3000.2
25°	2990.3	2963.8	2907.1	2913.5	2907.1
27.5°	2890.1	2866.7	2823.5	2813.6	2797.0
30°	2790.3	2763.3	2713.4	2703.5	2690.0
32.5°	2683.3	2663.5	2610.0	2589.8	2576.4
35°	2579.9	2546.7	2493.1	2473.0	2456.3
37.5°	2463.1	2432.9	2379.5	2356.1	2339.4
40°	2343.0	2316.1	2262.6	2232.9	2219.5
42.5°	2226.2	2199.2	2146.2	2112.5	2092.7
45°	2099.4	2076.0	2025.7	1989.2	1975.9
47.5°	1975.9	1952.5	1899.0	1862.1	1842.3
50°	1845.5	1828.9	1782.1	1735.4	1718.8
52.5°	1718.8	1695.4	1652.2	1615.4	1592.0
55°	1588.8	1568.7	1528.6	1488.6	1472.0
57.5°	1458.5	1441.8	1398.3	1358.3	1344.9
60°	1328.2	1315.1	1268.3	1231.5	1221.6
62.5°	1201.4	1178.1	1144.8	1111.5	1098.1
65°	1071.5	1051.3	1018.0	987.9	971.3
67.5°	938.0	921.0	891.3	867.9	854.4
70°	814.4	800.9	770.9	747.5	734.4
72.5°	687.6	674.2	657.6	634.2	624.2
75°	560.5	554.2	537.2	517.4	524.0
77.5°	447.2	433.8	427.0	417.1	407.2
80°	333.9	330.4	323.6	313.7	307.0
82.5°	227.0	227.0	223.8	210.3	210.3
85°	136.7	133.5	130.3	120.1	116.9
87.5°	60.2	53.4	46.7	36.8	33.3
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	16.12	14.88	16.44	16.75	14.07	15.68	14.43	15.99	16.31
	3H	16.26	17.72	16.64	18.04	18.40	15.77	17.23	16.15	17.55	17.91
	4H	16.91	18.28	17.31	18.63	19.00	16.41	17.78	16.81	18.13	18.51
	6H	17.38	18.65	17.79	19.01	19.40	16.88	18.15	17.29	18.51	18.90
	8H	17.52	18.73	17.95	19.12	19.52	17.02	18.23	17.44	18.62	19.02
	12H	17.61	18.77	18.04	19.15	19.58	17.10	18.26	17.53	18.64	19.07
4H	2H	15.07	16.44	15.47	16.79	17.17	14.72	16.09	15.12	16.44	16.81
	3H	17.05	18.19	17.46	18.59	18.99	16.64	17.79	17.05	18.19	18.59
	4H	17.82	18.86	18.26	19.27	19.71	17.40	18.44	17.83	18.85	19.29
	6H	18.42	19.33	18.88	19.77	20.22	17.99	18.89	18.44	19.33	19.79
	8H	18.61	19.46	19.07	19.90	20.36	18.17	19.02	18.63	19.46	19.93
	12H	18.74	19.50	19.22	19.98	20.45	18.29	19.05	18.77	19.53	20.00
8H	4H	18.10	18.94	18.56	19.39	19.85	17.72	18.57	18.18	19.01	19.48
	6H	18.81	19.52	19.31	20.00	20.48	18.43	19.13	18.92	19.62	20.10
	8H	19.07	19.70	19.58	20.21	20.69	18.68	19.31	19.19	19.82	20.30
	12H	19.27	19.83	19.78	20.32	20.88	18.86	19.42	19.37	19.91	20.47
12H	4H	18.12	18.88	18.60	19.36	19.83	17.76	18.52	18.24	18.99	19.46
	6H	18.86	19.49	19.37	20.00	20.48	18.49	19.12	19.00	19.63	20.11
	8H	19.17	19.73	19.68	20.22	20.78	18.79	19.35	19.30	19.84	20.40