

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: P930733

Luminaire Tested: DFN2DS-PN4F0-090DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930733
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-PN4F0-090DS930-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

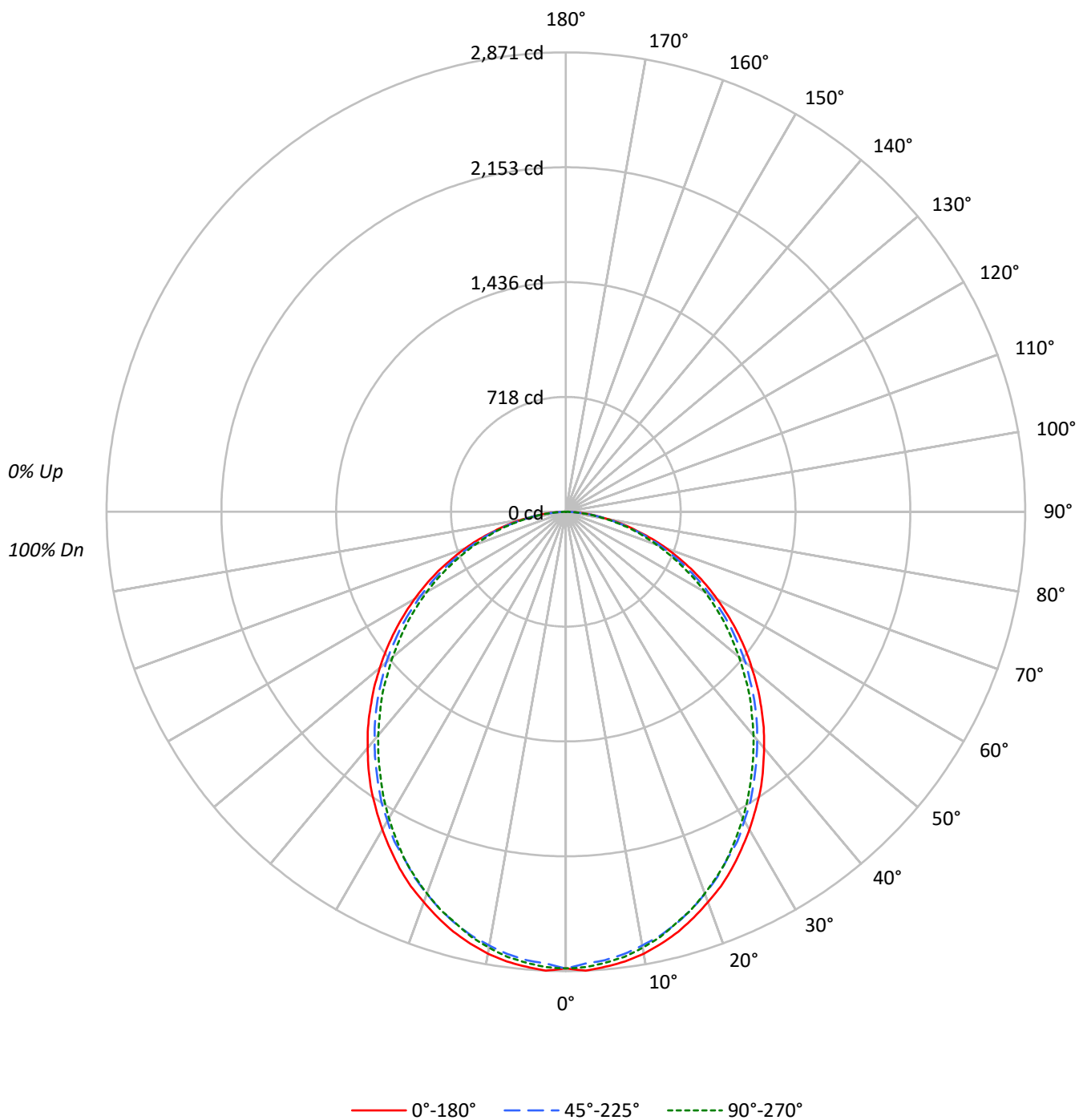
Lumens per Lamp: N/A
Luminaire Lumens: 7261.7 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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

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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°	2083	2083	2083
5°	2091	2061	2073
10°	2079	2040	2051
15°	2053	2014	2012
20°	2017	1974	1972
25°	1980	1925	1925
30°	1934	1881	1865
35°	1890	1827	1800
40°	1836	1773	1739
45°	1782	1720	1677
50°	1723	1664	1605
55°	1663	1600	1540
60°	1595	1523	1467
65°	1522	1446	1380
70°	1429	1353	1289
75°	1300	1246	1216
80°	1154	1119	1061
85°	941	898	805

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1782 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.6	3.7
10°-20°	755.8	10.4
20°-30°	1110.7	15.3
30°-40°	1290.1	17.8
40°-50°	1288.5	17.7
50°-60°	1123.5	15.5
60°-70°	830.5	11.4
70°-80°	469.9	6.5
80°-90°	124.0	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°	2135.2	29.4
0°-40°	3425.3	47.2
0°-60°	5837.3	80.4
0°-90°	7261.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7261.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2854	2854	2854	2854	2854	
5°	2854	2843	2813	2835	2830	271
15°	2717	2701	2665	2676	2662	765
25°	2459	2437	2391	2396	2391	1131
35°	2122	2094	2050	2034	2020	1325
45°	1726	1707	1666	1636	1625	1332
55°	1306	1290	1257	1224	1210	1168
65°	881	864	837	812	799	871
75°	461	456	442	425	431	492
85°	112	110	107	99	96	132
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2854.0	2854.0	2854.0	2854.0	2854.0
2.5°	2870.7	2857.0	2826.7	2854.0	2848.8
5°	2854.0	2843.3	2813.1	2834.9	2829.6
7.5°	2834.9	2818.6	2788.3	2810.4	2804.9
10°	2804.9	2785.7	2752.7	2774.6	2766.4
12.5°	2763.5	2747.2	2714.4	2728.0	2722.5
15°	2717.0	2700.7	2664.8	2675.9	2662.2
17.5°	2659.3	2643.0	2607.2	2620.9	2607.2
20°	2596.1	2579.8	2541.3	2549.5	2538.7
22.5°	2533.2	2508.5	2472.6	2472.6	2467.1
25°	2458.9	2437.1	2390.6	2395.8	2390.6
27.5°	2376.5	2357.3	2321.9	2313.7	2300.0
30°	2294.5	2272.3	2231.2	2223.1	2212.1
32.5°	2206.5	2190.2	2146.2	2129.7	2118.6
35°	2121.5	2094.1	2050.1	2033.6	2019.9
37.5°	2025.4	2000.7	1956.7	1937.5	1923.8
40°	1926.7	1904.6	1860.6	1836.1	1825.1
42.5°	1830.6	1808.5	1764.8	1737.2	1720.9
45°	1726.3	1707.2	1665.8	1635.8	1624.8
47.5°	1624.8	1605.6	1561.5	1531.3	1515.0
50°	1517.6	1503.9	1465.5	1427.1	1413.4
52.5°	1413.4	1394.1	1358.6	1328.4	1309.1
55°	1306.5	1289.9	1257.0	1224.1	1210.4
57.5°	1199.4	1185.7	1149.9	1117.0	1105.9
60°	1092.2	1081.4	1043.0	1012.7	1004.6
62.5°	987.9	968.7	941.3	914.0	902.9
65°	881.1	864.5	837.1	812.4	798.7
67.5°	771.3	757.4	732.8	713.7	702.6
70°	669.7	658.6	633.9	614.7	603.9
72.5°	565.4	554.4	540.7	521.5	513.4
75°	461.0	455.7	441.7	425.4	431.0
77.5°	367.7	356.7	351.2	343.0	334.9
80°	274.6	271.6	266.1	257.9	252.5
82.5°	186.6	186.6	184.0	172.9	172.9
85°	112.4	109.8	107.2	98.7	96.1
87.5°	49.5	43.9	38.5	30.3	27.4
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	13.83	15.44	14.20	15.76	16.07	13.39	15.00	13.75	15.31	15.63
	3H	15.58	17.04	15.96	17.36	17.72	15.09	16.55	15.47	16.87	17.23
	4H	16.23	17.60	16.63	17.95	18.32	15.73	17.10	16.13	17.45	17.83
	6H	16.70	17.97	17.11	18.33	18.72	16.20	17.47	16.61	17.83	18.22
	8H	16.84	18.05	17.27	18.44	18.84	16.34	17.55	16.76	17.94	18.34
	12H	16.93	18.09	17.36	18.47	18.90	16.42	17.58	16.85	17.96	18.39
4H	2H	14.39	15.76	14.79	16.11	16.49	14.04	15.41	14.44	15.76	16.13
	3H	16.37	17.51	16.78	17.91	18.31	15.96	17.11	16.37	17.51	17.91
	4H	17.14	18.18	17.58	18.59	19.03	16.72	17.76	17.15	18.17	18.61
	6H	17.74	18.65	18.20	19.09	19.54	17.31	18.21	17.76	18.65	19.11
	8H	17.93	18.78	18.39	19.22	19.69	17.49	18.34	17.95	18.78	19.25
	12H	18.06	18.82	18.54	19.30	19.77	17.61	18.37	18.09	18.85	19.32
8H	4H	17.42	18.26	17.88	18.71	19.17	17.04	17.89	17.50	18.33	18.80
	6H	18.13	18.84	18.63	19.32	19.80	17.75	18.45	18.24	18.94	19.42
	8H	18.39	19.02	18.90	19.53	20.02	18.00	18.63	18.51	19.14	19.62
	12H	18.59	19.15	19.10	19.64	20.20	18.18	18.74	18.69	19.23	19.79
12H	4H	17.44	18.20	17.92	18.68	19.15	17.08	17.84	17.56	18.32	18.78
	6H	18.18	18.81	18.69	19.32	19.80	17.81	18.44	18.32	18.95	19.43
	8H	18.49	19.05	19.00	19.54	20.10	18.11	18.67	18.62	19.16	19.72

END OF REPORT