

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: P930763

Luminaire Tested: DFN2DS-PN4F0-110DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930763
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-PN4F0-110DS840-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

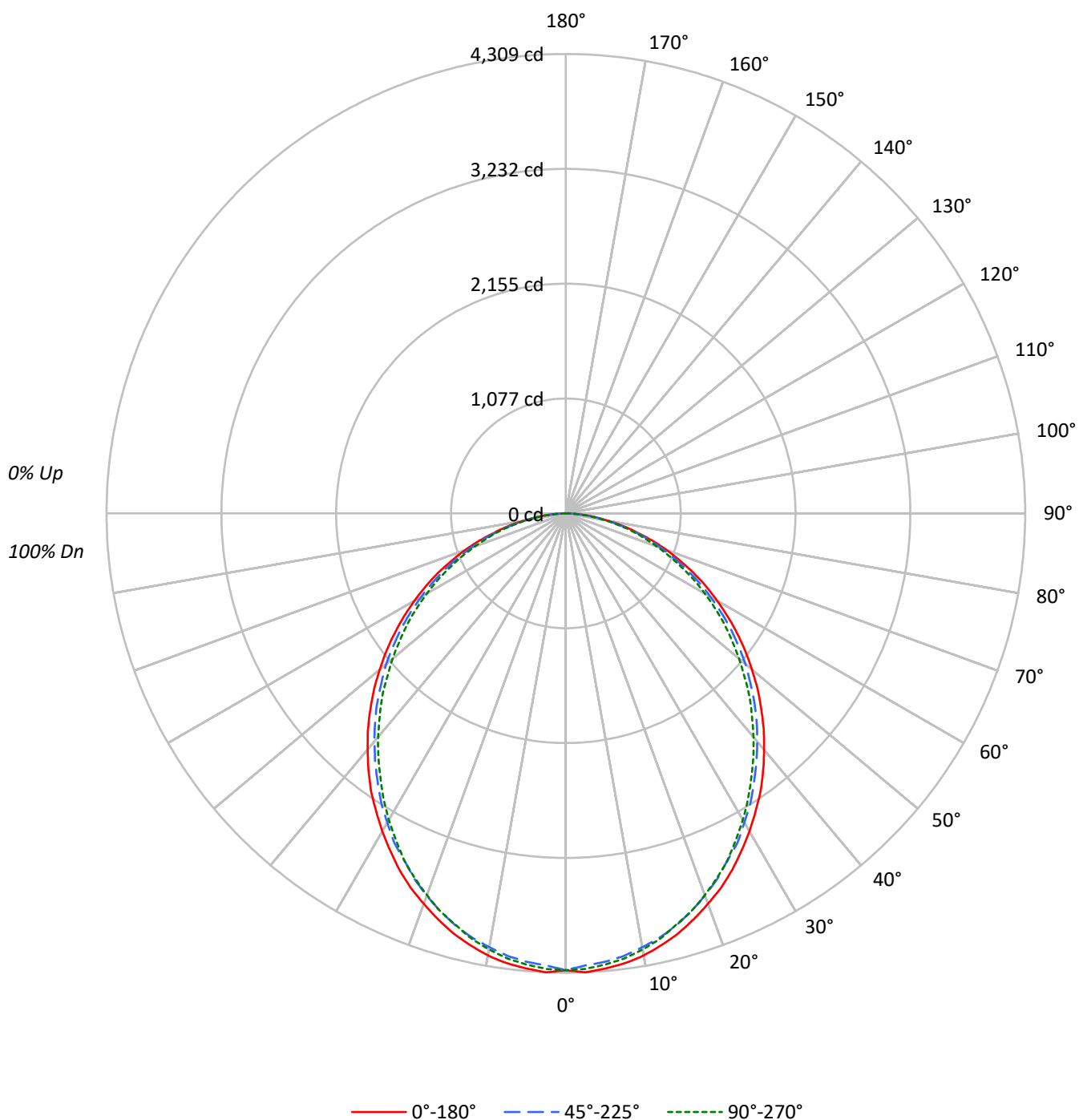
Lumens per Lamp: N/A
Luminaire Lumens: 10900.9 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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
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°	3128	3128	3128
5°	3139	3094	3112
10°	3121	3063	3078
15°	3082	3023	3020
20°	3027	2964	2960
25°	2973	2890	2890
30°	2903	2823	2799
35°	2838	2742	2702
40°	2756	2662	2611
45°	2675	2581	2518
50°	2587	2498	2409
55°	2496	2401	2312
60°	2394	2286	2202
65°	2284	2171	2071
70°	2146	2031	1935
75°	1951	1870	1824
80°	1733	1679	1593
85°	1414	1348	1208

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2675 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	403.3	3.7
10°-20°	1134.6	10.4
20°-30°	1667.4	15.3
30°-40°	1936.6	17.8
40°-50°	1934.2	17.7
50°-60°	1686.5	15.5
60°-70°	1246.7	11.4
70°-80°	705.4	6.5
80°-90°	186.2	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°	3205.3	29.4
0°-40°	5141.8	47.2
0°-60°	8762.6	80.4
0°-90°	10900.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10900.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4284	4284	4284	4284	4284	
5°	4284	4268	4223	4256	4248	407
15°	4079	4054	4000	4017	3996	1149
25°	3691	3659	3589	3596	3589	1699
35°	3185	3144	3078	3053	3032	1989
45°	2592	2563	2501	2456	2439	2000
55°	1961	1936	1887	1838	1817	1753
65°	1323	1298	1257	1220	1199	1308
75°	692	684	663	639	647	739
85°	169	165	161	148	144	198
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4284.5	4284.5	4284.5	4284.5	4284.5
2.5°	4309.3	4288.8	4243.3	4284.5	4276.6
5°	4284.5	4268.3	4222.8	4255.6	4247.7
7.5°	4255.6	4231.1	4185.7	4218.9	4210.6
10°	4210.6	4181.7	4132.3	4165.1	4152.8
12.5°	4148.5	4124.0	4074.7	4095.2	4086.9
15°	4078.6	4054.0	4000.3	4016.9	3996.4
17.5°	3992.0	3967.6	3913.8	3934.3	3913.8
20°	3897.2	3872.7	3815.0	3827.2	3811.1
22.5°	3802.8	3765.6	3711.8	3711.8	3703.5
25°	3691.3	3658.6	3588.6	3596.5	3588.6
27.5°	3567.6	3538.7	3485.4	3473.2	3452.6
30°	3444.3	3411.1	3349.4	3337.2	3320.6
32.5°	3312.3	3287.9	3221.8	3196.9	3180.3
35°	3184.7	3143.6	3077.6	3052.6	3032.1
37.5°	3040.4	3003.3	2937.3	2908.4	2887.9
40°	2892.3	2859.1	2793.1	2756.4	2739.7
42.5°	2748.0	2714.8	2649.2	2607.7	2583.3
45°	2591.6	2562.7	2500.6	2455.7	2439.0
47.5°	2439.0	2410.2	2344.1	2298.7	2274.2
50°	2278.2	2257.7	2199.9	2142.2	2121.7
52.5°	2121.7	2092.8	2039.5	1994.0	1965.2
55°	1961.3	1936.3	1887.0	1837.5	1817.0
57.5°	1800.4	1779.9	1726.1	1676.7	1660.1
60°	1639.5	1623.4	1565.7	1520.2	1508.0
62.5°	1483.1	1454.3	1413.1	1372.1	1355.5
65°	1322.6	1297.7	1256.7	1219.5	1199.0
67.5°	1157.9	1136.9	1100.2	1071.4	1054.8
70°	1005.3	988.7	951.6	922.7	906.5
72.5°	848.8	832.2	811.7	782.9	770.6
75°	691.9	684.1	663.1	638.6	646.9
77.5°	552.1	535.4	527.1	514.9	502.7
80°	412.2	407.8	399.5	387.3	379.0
82.5°	280.2	280.2	276.3	259.7	259.7
85°	168.8	164.8	160.9	148.1	144.2
87.5°	74.3	66.0	57.7	45.4	41.0
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	15.24	16.85	15.61	17.17	17.48	14.80	16.41	15.16	16.72	17.04
	3H	16.99	18.45	17.37	18.78	19.14	16.50	17.96	16.88	18.28	18.64
	4H	17.64	19.01	18.04	19.36	19.73	17.15	18.51	17.54	18.86	19.24
	6H	18.11	19.38	18.52	19.74	20.13	17.61	18.88	18.02	19.24	19.63
	8H	18.25	19.46	18.68	19.85	20.25	17.75	18.96	18.17	19.35	19.75
	12H	18.34	19.50	18.77	19.88	20.31	17.83	18.99	18.26	19.37	19.80
4H	2H	15.80	17.17	16.20	17.52	17.90	15.45	16.82	15.85	17.17	17.54
	3H	17.78	18.93	18.19	19.32	19.72	17.37	18.52	17.78	18.92	19.32
	4H	18.56	19.59	18.99	20.01	20.44	18.13	19.17	18.56	19.58	20.02
	6H	19.15	20.06	19.61	20.50	20.95	18.72	19.63	19.17	20.07	20.52
	8H	19.34	20.19	19.80	20.63	21.10	18.90	19.75	19.36	20.19	20.66
	12H	19.47	20.23	19.95	20.71	21.18	19.02	19.78	19.50	20.26	20.73
8H	4H	18.83	19.68	19.29	20.12	20.58	18.46	19.30	18.92	19.74	20.21
	6H	19.54	20.25	20.04	20.74	21.21	19.16	19.87	19.66	20.35	20.83
	8H	19.80	20.43	20.31	20.94	21.43	19.41	20.04	19.92	20.55	21.04
	12H	20.00	20.56	20.51	21.05	21.61	19.59	20.15	20.10	20.64	21.20
12H	4H	18.86	19.62	19.34	20.09	20.56	18.49	19.25	18.97	19.73	20.20
	6H	19.59	20.22	20.10	20.73	21.21	19.22	19.85	19.73	20.36	20.85
	8H	19.90	20.46	20.41	20.95	21.51	19.53	20.08	20.03	20.57	21.13

END OF REPORT