

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: P930775

Luminaire Tested: DFN2DS-PN4F0-110DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930775
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-PN4F0-110DS950-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

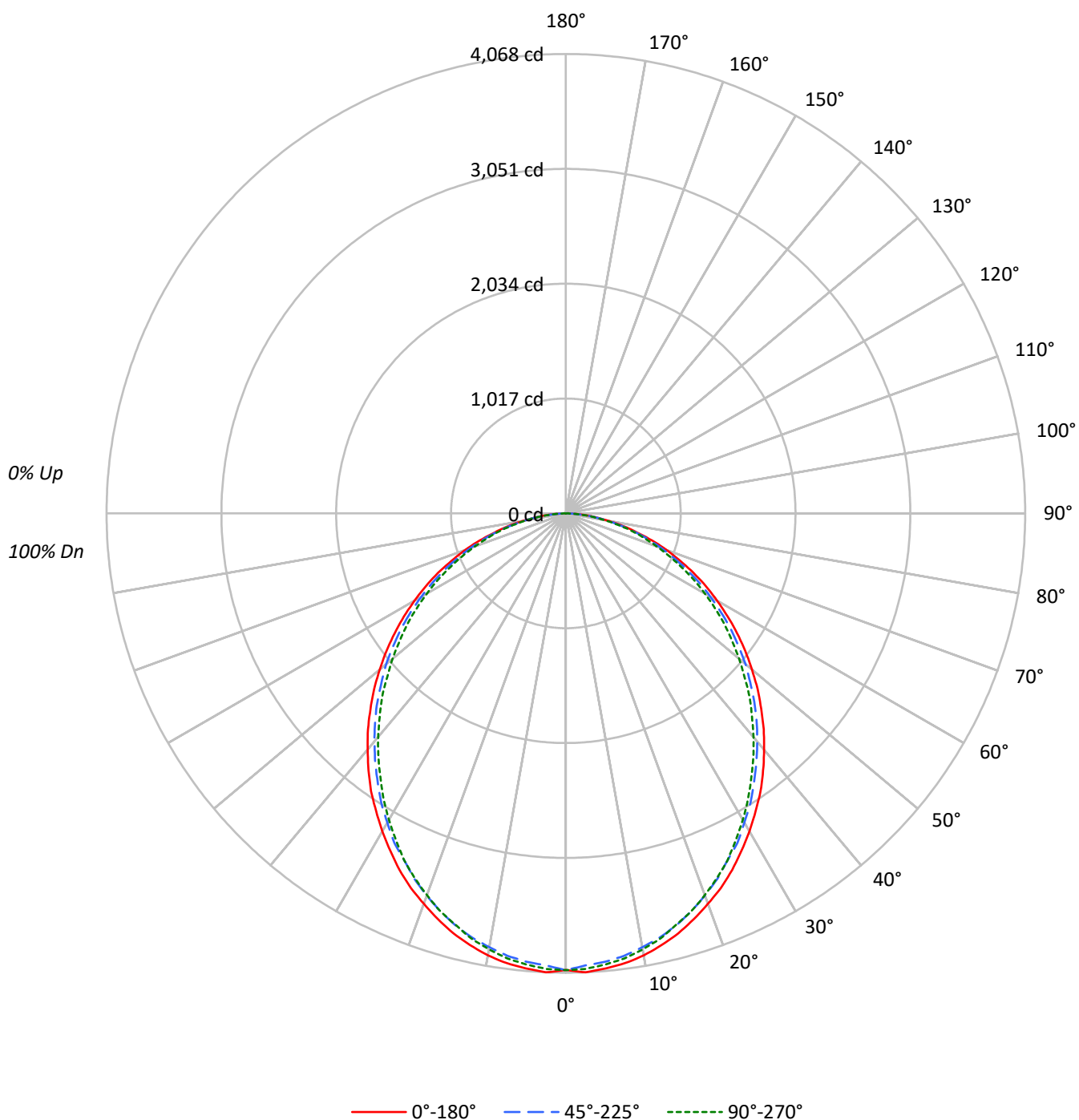
Lumens per Lamp: N/A
Luminaire Lumens: 10291.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2953	2953	2953
5°	2964	2921	2938
10°	2946	2892	2906
15°	2910	2854	2851
20°	2858	2798	2795
25°	2807	2729	2729
30°	2741	2665	2642
35°	2679	2589	2551
40°	2602	2513	2465
45°	2526	2437	2377
50°	2442	2358	2275
55°	2356	2267	2183
60°	2260	2158	2078
65°	2157	2049	1955
70°	2026	1917	1826
75°	1842	1766	1723
80°	1636	1585	1504
85°	1334	1272	1141

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2526 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	380.7	3.7
10°-20°	1071.1	10.4
20°-30°	1574.1	15.3
30°-40°	1828.2	17.8
40°-50°	1826.0	17.7
50°-60°	1592.2	15.5
60°-70°	1177.0	11.4
70°-80°	665.9	6.5
80°-90°	175.8	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°	3025.9	29.4
0°-40°	4854.2	47.2
0°-60°	8272.4	80.4
0°-90°	10291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4045	4045	4045	4045	4045	
5°	4045	4030	3987	4018	4010	384
15°	3850	3827	3776	3792	3773	1084
25°	3485	3454	3388	3395	3388	1604
35°	3006	2968	2905	2882	2862	1877
45°	2447	2419	2361	2318	2303	1888
55°	1852	1828	1781	1735	1715	1655
65°	1249	1225	1186	1151	1132	1235
75°	653	646	626	603	611	697
85°	159	156	152	140	136	187
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4044.8	4044.8	4044.8	4044.8	4044.8
2.5°	4068.2	4048.9	4005.9	4044.8	4037.3
5°	4044.8	4029.5	3986.6	4017.5	4010.1
7.5°	4017.5	3994.4	3951.5	3982.9	3975.0
10°	3975.0	3947.7	3901.1	3932.1	3920.5
12.5°	3916.5	3893.3	3846.7	3866.1	3858.2
15°	3850.4	3827.2	3776.5	3792.2	3772.8
17.5°	3768.7	3745.6	3694.9	3714.2	3694.9
20°	3679.2	3656.0	3601.6	3613.1	3597.9
22.5°	3590.1	3554.9	3504.2	3504.2	3496.3
25°	3484.8	3453.9	3387.8	3395.3	3387.8
27.5°	3368.0	3340.8	3290.4	3278.9	3259.5
30°	3251.7	3220.3	3162.1	3150.5	3134.8
32.5°	3127.0	3103.9	3041.6	3018.0	3002.4
35°	3006.5	2967.8	2905.4	2881.9	2862.5
37.5°	2870.3	2835.3	2773.0	2745.7	2726.3
40°	2730.5	2699.1	2636.8	2602.2	2586.5
42.5°	2594.3	2562.9	2501.0	2461.8	2438.8
45°	2446.6	2419.3	2360.7	2318.3	2302.6
47.5°	2302.6	2275.4	2213.0	2170.1	2146.9
50°	2150.7	2131.4	2076.8	2022.4	2003.0
52.5°	2003.0	1975.7	1925.4	1882.4	1855.2
55°	1851.5	1828.0	1781.4	1734.7	1715.4
57.5°	1699.7	1680.3	1629.6	1582.9	1567.2
60°	1547.8	1532.6	1478.1	1435.2	1423.6
62.5°	1400.1	1372.9	1334.1	1295.3	1279.6
65°	1248.6	1225.1	1186.4	1151.3	1131.9
67.5°	1093.1	1073.3	1038.6	1011.4	995.7
70°	949.1	933.4	898.3	871.1	855.8
72.5°	801.4	785.7	766.3	739.1	727.5
75°	653.2	645.8	626.0	602.9	610.8
77.5°	521.2	505.5	497.6	486.1	474.6
80°	389.2	385.0	377.1	365.6	357.8
82.5°	264.5	264.5	260.8	245.1	245.1
85°	159.3	155.5	151.9	139.9	136.2
87.5°	70.1	62.3	54.4	42.9	38.7
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	15.04	16.65	15.41	16.97	17.28	14.60	16.21	14.96	16.52	16.84
	3H	16.79	18.25	17.17	18.58	18.94	16.30	17.76	16.68	18.08	18.44
	4H	17.44	18.81	17.84	19.16	19.53	16.95	18.31	17.34	18.66	19.04
	6H	17.91	19.18	18.32	19.54	19.93	17.41	18.68	17.82	19.04	19.43
	8H	18.05	19.26	18.48	19.65	20.05	17.55	18.76	17.97	19.15	19.55
	12H	18.14	19.30	18.57	19.68	20.11	17.63	18.79	18.06	19.17	19.60
4H	2H	15.60	16.97	16.00	17.32	17.70	15.25	16.62	15.65	16.97	17.34
	3H	17.58	18.73	17.99	19.12	19.52	17.17	18.32	17.58	18.72	19.12
	4H	18.36	19.39	18.79	19.81	20.24	17.93	18.97	18.36	19.38	19.82
	6H	18.95	19.86	19.41	20.30	20.75	18.52	19.43	18.97	19.87	20.32
	8H	19.14	19.99	19.60	20.43	20.90	18.70	19.55	19.16	19.99	20.46
	12H	19.27	20.03	19.75	20.51	20.98	18.82	19.58	19.30	20.06	20.53
8H	4H	18.63	19.48	19.09	19.92	20.38	18.26	19.10	18.72	19.54	20.01
	6H	19.34	20.05	19.84	20.54	21.01	18.96	19.67	19.46	20.15	20.63
	8H	19.60	20.23	20.11	20.74	21.23	19.21	19.84	19.72	20.35	20.83
	12H	19.80	20.36	20.31	20.85	21.41	19.39	19.95	19.90	20.44	21.00
12H	4H	18.66	19.42	19.14	19.89	20.36	18.29	19.05	18.77	19.53	20.00
	6H	19.39	20.02	19.90	20.53	21.01	19.02	19.65	19.53	20.16	20.65
	8H	19.70	20.26	20.21	20.75	21.31	19.33	19.88	19.83	20.37	20.93