

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: P930757

Luminaire Tested: DFN2DS-PN4F0-100DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930757
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-PN4F0-100DS950-FLL
Description: 4 foot, Pentagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

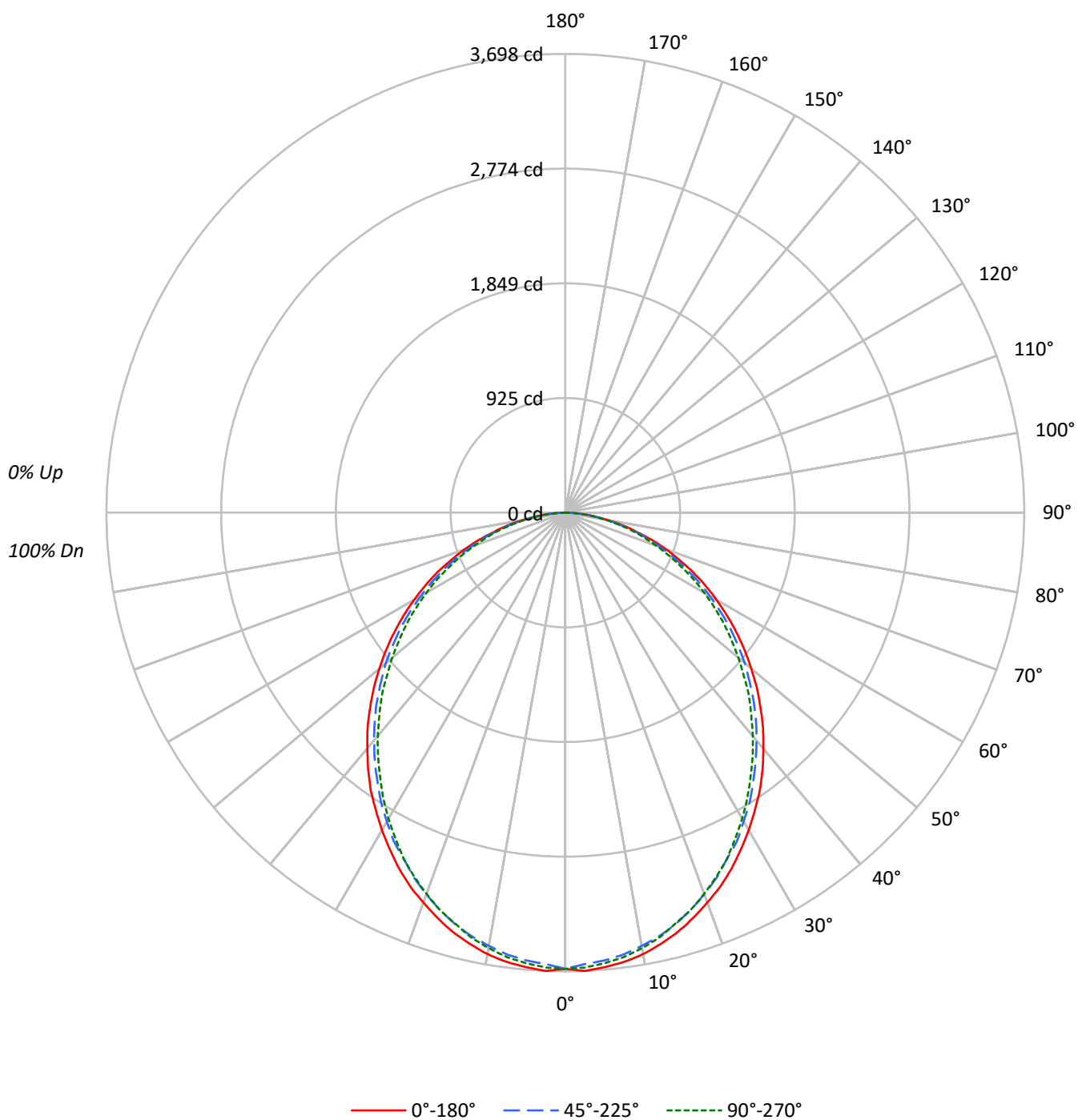
Lumens per Lamp: N/A
Luminaire Lumens: 9355.5 lumens
Efficiency: N/A
Efficacy: 88.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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°	2684	2684	2684
5°	2694	2656	2671
10°	2679	2629	2642
15°	2645	2594	2592
20°	2598	2543	2541
25°	2552	2481	2481
30°	2492	2423	2402
35°	2436	2354	2319
40°	2365	2284	2241
45°	2296	2215	2161
50°	2220	2144	2068
55°	2142	2061	1985
60°	2054	1962	1889
65°	1961	1863	1777
70°	1841	1743	1660
75°	1675	1605	1566
80°	1487	1441	1367
85°	1213	1157	1037

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2296 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	346.1	3.7
10°-20°	973.8	10.4
20°-30°	1431.0	15.3
30°-40°	1662.0	17.8
40°-50°	1660.0	17.7
50°-60°	1447.4	15.5
60°-70°	1070.0	11.4
70°-80°	605.4	6.5
80°-90°	159.8	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°	2750.9	29.4
0°-40°	4412.9	47.2
0°-60°	7520.3	80.4
0°-90°	9355.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9355.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3677	3677	3677	3677	3677	
5°	3677	3663	3624	3652	3646	349
15°	3500	3479	3433	3448	3430	986
25°	3168	3140	3080	3087	3080	1458
35°	2733	2698	2641	2620	2602	1707
45°	2224	2199	2146	2107	2093	1717
55°	1683	1662	1619	1577	1559	1505
65°	1135	1114	1078	1047	1029	1122
75°	594	587	569	548	555	634
85°	145	142	138	127	124	170
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3677.1	3677.1	3677.1	3677.1	3677.1
2.5°	3698.4	3680.8	3641.7	3677.1	3670.3
5°	3677.1	3663.2	3624.2	3652.3	3645.5
7.5°	3652.3	3631.3	3592.2	3620.8	3613.7
10°	3613.7	3588.9	3546.5	3574.7	3564.2
12.5°	3560.4	3539.4	3497.0	3514.6	3507.5
15°	3500.4	3479.4	3433.2	3447.5	3429.9
17.5°	3426.1	3405.1	3358.9	3376.6	3358.9
20°	3344.6	3323.7	3274.1	3284.6	3270.7
22.5°	3263.7	3231.8	3185.6	3185.6	3178.5
25°	3168.0	3139.9	3079.8	3086.6	3079.8
27.5°	3061.8	3037.0	2991.3	2980.8	2963.1
30°	2956.1	2927.5	2874.6	2864.1	2849.8
32.5°	2842.7	2821.8	2765.1	2743.7	2729.4
35°	2733.2	2698.0	2641.3	2619.9	2602.2
37.5°	2609.4	2577.5	2520.9	2496.1	2478.5
40°	2482.2	2453.7	2397.1	2365.6	2351.3
42.5°	2358.4	2329.9	2273.7	2238.0	2217.1
45°	2224.2	2199.4	2146.1	2107.4	2093.3
47.5°	2093.3	2068.5	2011.8	1972.8	1951.8
50°	1955.2	1937.5	1888.0	1838.5	1820.9
52.5°	1820.9	1796.2	1750.3	1711.4	1686.6
55°	1683.2	1661.9	1619.4	1577.0	1559.4
57.5°	1545.2	1527.5	1481.4	1439.0	1424.8
60°	1407.1	1393.2	1343.7	1304.7	1294.2
62.5°	1272.8	1248.1	1212.8	1177.6	1163.3
65°	1135.1	1113.8	1078.5	1046.6	1029.0
67.5°	993.8	975.7	944.2	919.5	905.2
70°	862.8	848.5	816.7	791.9	778.0
72.5°	728.5	714.2	696.7	671.9	661.3
75°	593.8	587.1	569.1	548.1	555.2
77.5°	473.8	459.6	452.4	441.9	431.4
80°	353.7	350.0	342.8	332.4	325.3
82.5°	240.5	240.5	237.1	222.8	222.8
85°	144.8	141.5	138.1	127.2	123.8
87.5°	63.8	56.6	49.5	39.0	35.2
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	14.71	16.32	15.08	16.64	16.95	14.27	15.88	14.63	16.19	16.51
	3H	16.46	17.92	16.84	18.24	18.60	15.97	17.43	16.35	17.75	18.11
	4H	17.11	18.48	17.51	18.83	19.20	16.61	17.98	17.01	18.33	18.71
	6H	17.58	18.85	17.99	19.21	19.60	17.08	18.35	17.49	18.71	19.10
	8H	17.72	18.93	18.15	19.32	19.72	17.22	18.43	17.64	18.82	19.22
	12H	17.81	18.97	18.24	19.35	19.78	17.30	18.46	17.73	18.84	19.27
4H	2H	15.27	16.64	15.67	16.99	17.37	14.92	16.29	15.32	16.64	17.01
	3H	17.25	18.39	17.66	18.79	19.19	16.84	17.99	17.25	18.39	18.79
	4H	18.02	19.06	18.46	19.47	19.91	17.60	18.64	18.03	19.05	19.49
	6H	18.62	19.53	19.08	19.97	20.42	18.19	19.09	18.64	19.53	19.99
	8H	18.81	19.66	19.27	20.10	20.57	18.37	19.22	18.83	19.66	20.13
	12H	18.94	19.70	19.42	20.18	20.65	18.49	19.25	18.97	19.73	20.20
8H	4H	18.30	19.14	18.76	19.59	20.05	17.92	18.77	18.38	19.21	19.68
	6H	19.01	19.72	19.51	20.20	20.68	18.63	19.33	19.12	19.82	20.30
	8H	19.27	19.90	19.78	20.41	20.90	18.88	19.51	19.39	20.02	20.50
	12H	19.47	20.03	19.98	20.52	21.08	19.06	19.62	19.57	20.11	20.67
12H	4H	18.32	19.08	18.80	19.56	20.03	17.96	18.72	18.44	19.20	19.66
	6H	19.06	19.69	19.57	20.20	20.68	18.69	19.32	19.20	19.83	20.31
	8H	19.37	19.93	19.88	20.42	20.98	18.99	19.55	19.50	20.04	20.60