

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: P930742

Luminaire Tested: DFN2DS-PN4F0-100DS830-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930742
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-PN4F0-100DS830-RLL
Description: 4 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

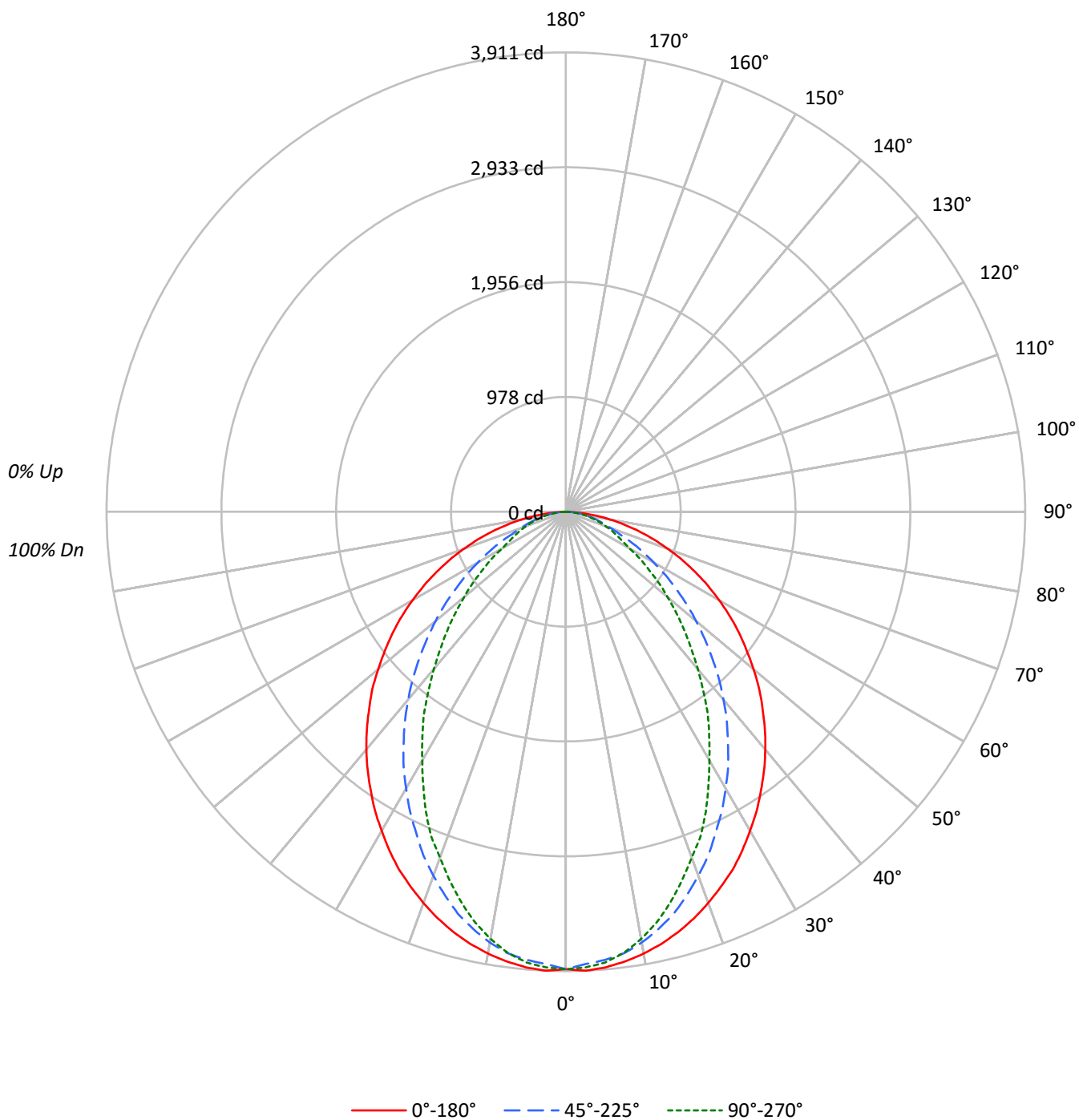
Lumens per Lamp: N/A
Luminaire Lumens: 8007.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.94' x L: 3.74' x H: 0')
CIE Type: Direct

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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2842	2842	2842
5°	2853	2806	2822
10°	2831	2761	2737
15°	2798	2679	2601
20°	2753	2562	2433
25°	2707	2429	2270
30°	2643	2292	2061
35°	2581	2145	1877
40°	2518	1991	1665
45°	2444	1819	1473
50°	2369	1644	1285
55°	2291	1457	1103
60°	2202	1260	916
65°	2100	1059	834
70°	1978	872	767
75°	1828	795	716
80°	1614	710	652
85°	1268	560	560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2444 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	364.9	4.6
10°-20°	1001.7	12.5
20°-30°	1406.3	17.6
30°-40°	1533.0	19.1
40°-50°	1409.0	17.6
50°-60°	1106.5	13.8
60°-70°	720.2	9.0
70°-80°	370.7	4.6
80°-90°	94.7	1.2
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°	2772.9	34.6
0°-40°	4305.8	53.8
0°-60°	6821.3	85.2
0°-90°	8007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8007.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3893	3893	3893	3893	3893	
5°	3893	3876	3830	3862	3851	369
15°	3703	3664	3544	3478	3442	1043
25°	3361	3248	3016	2872	2819	1546
35°	2896	2716	2407	2185	2107	1813
45°	2368	2132	1762	1511	1427	1829
55°	1800	1526	1145	934	867	1609
65°	1216	930	613	493	483	1205
75°	648	402	282	257	254	686
85°	151	77	67	67	67	181
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3893.3	3893.3	3893.3	3893.3	3893.3
2.5°	3910.8	3893.3	3854.4	3889.9	3882.8
5°	3893.3	3875.7	3829.7	3861.5	3851.0
7.5°	3861.5	3840.5	3791.2	3805.0	3787.5
10°	3819.2	3794.6	3724.3	3713.5	3692.5
12.5°	3766.6	3734.7	3639.4	3618.5	3579.6
15°	3703.0	3664.1	3544.5	3477.6	3442.4
17.5°	3629.0	3572.5	3424.5	3347.1	3290.7
20°	3544.5	3473.8	3297.8	3210.0	3132.1
22.5°	3452.9	3371.8	3167.3	3047.7	2995.0
25°	3361.3	3248.5	3015.9	2871.6	2818.6
27.5°	3252.2	3132.1	2875.0	2709.4	2628.3
30°	3135.9	3001.7	2719.8	2540.5	2445.1
32.5°	3023.1	2860.8	2572.2	2360.7	2272.4
35°	2896.3	2716.5	2406.6	2184.6	2106.8
37.5°	2773.0	2578.9	2251.5	2008.2	1920.3
40°	2642.5	2431.3	2089.3	1839.2	1747.6
42.5°	2508.6	2283.2	1927.4	1666.5	1578.6
45°	2367.7	2131.5	1761.8	1511.3	1426.8
47.5°	2234.0	1983.9	1603.3	1352.8	1275.5
50°	2085.9	1835.8	1448.1	1204.8	1131.2
52.5°	1941.2	1676.9	1300.1	1067.6	1000.7
55°	1800.3	1525.6	1145.0	933.8	866.8
57.5°	1656.0	1374.1	1007.8	810.4	754.0
60°	1508.0	1226.1	863.2	683.7	627.3
62.5°	1363.6	1081.8	739.8	570.9	542.8
65°	1215.7	930.0	613.1	493.4	482.6
67.5°	1074.7	789.1	493.4	433.2	422.8
70°	926.6	652.0	408.5	373.4	359.3
72.5°	785.7	524.8	341.7	313.6	306.5
75°	648.2	401.5	281.8	257.2	253.8
77.5°	511.0	285.2	222.0	207.8	200.7
80°	383.9	204.5	169.0	155.1	155.1
82.5°	267.6	137.5	116.2	109.2	109.2
85°	151.4	77.3	66.9	66.9	66.9
87.5°	56.4	28.1	28.1	24.7	24.7
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	14.86	16.39	15.23	16.70	17.01	10.82	12.35	11.19	12.66	12.97
	3H	16.63	17.99	17.01	18.32	18.68	12.09	13.45	12.47	13.78	14.14
	4H	17.30	18.58	17.69	18.92	19.30	12.59	13.87	12.99	14.22	14.60
	6H	17.78	18.97	18.20	19.33	19.73	12.97	14.15	13.38	14.52	14.91
	8H	17.95	19.08	18.38	19.47	19.87	13.10	14.22	13.52	14.61	15.01
	12H	18.05	19.13	18.48	19.51	19.94	13.18	14.26	13.61	14.64	15.07
4H	2H	14.97	16.25	15.37	16.60	16.98	11.52	12.80	11.92	13.15	13.53
	3H	16.90	17.96	17.31	18.36	18.76	12.96	14.03	13.37	14.43	14.83
	4H	17.65	18.61	18.08	19.02	19.46	13.56	14.52	13.99	14.93	15.37
	6H	18.24	19.07	18.70	19.52	19.98	14.05	14.88	14.51	15.32	15.78
	8H	18.46	19.23	18.92	19.68	20.15	14.21	14.99	14.68	15.43	15.90
	12H	18.61	19.30	19.09	19.78	20.25	14.33	15.02	14.81	15.50	15.97
8H	4H	17.67	18.45	18.14	18.90	19.36	13.92	14.69	14.38	15.14	15.60
	6H	18.31	18.95	18.81	19.45	19.92	14.50	15.14	15.00	15.64	16.11
	8H	18.56	19.14	19.08	19.65	20.14	14.72	15.30	15.24	15.81	16.30
	12H	18.77	19.28	19.28	19.77	20.33	14.90	15.41	15.41	15.90	16.47
12H	4H	17.66	18.35	18.14	18.83	19.30	13.96	14.65	14.44	15.13	15.60
	6H	18.29	18.87	18.81	19.38	19.87	14.57	15.14	15.08	15.65	16.14
	8H	18.58	19.09	19.09	19.58	20.14	14.84	15.35	15.35	15.84	16.41