

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: P930394

Luminaire Tested: DFN2DS-HX4F0-110DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930394
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-HX4F0-110DS935-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

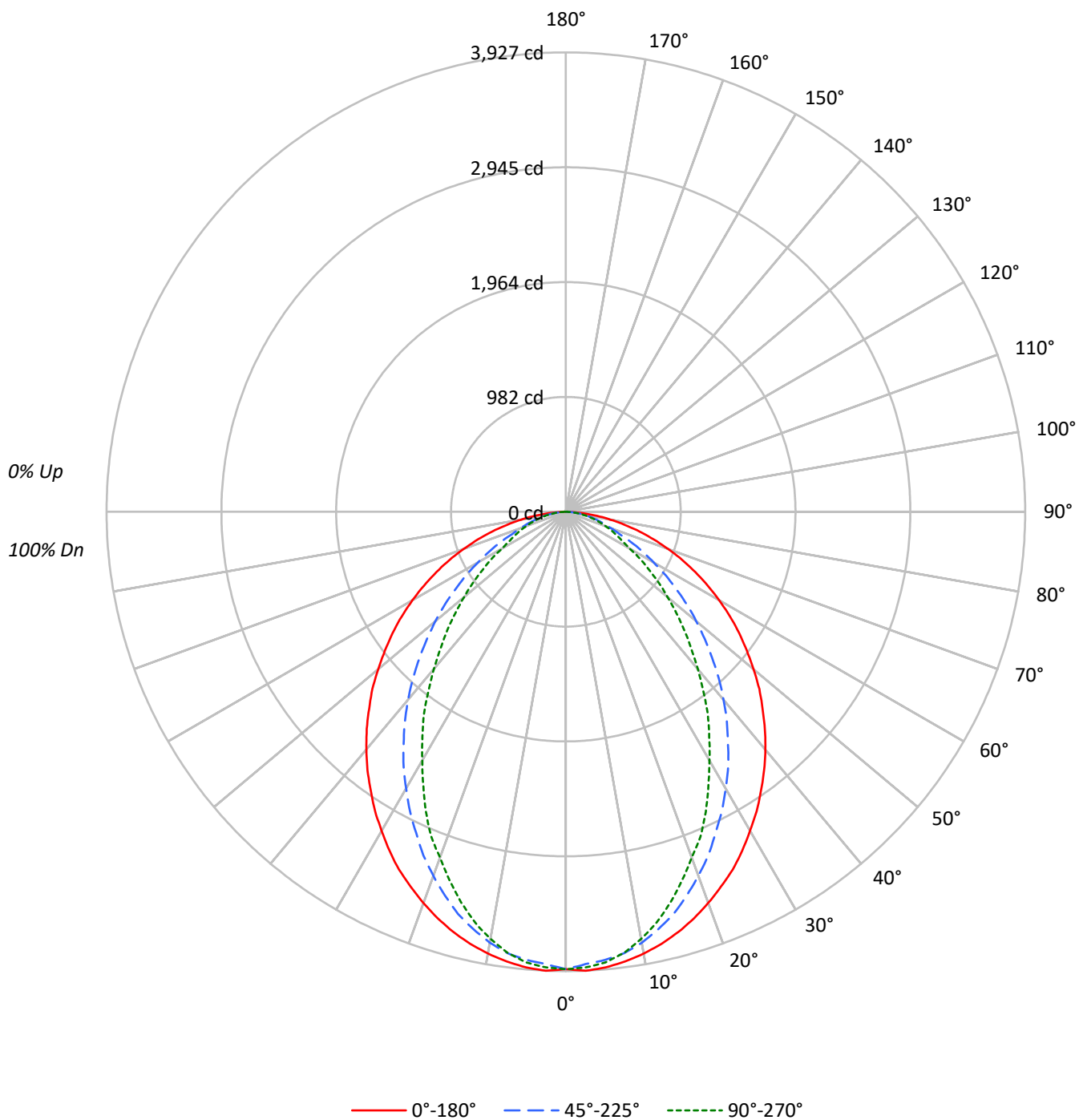
Lumens per Lamp: N/A
Luminaire Lumens: 8041.0 lumens
Efficiency: N/A
Efficacy: 68.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 117.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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°	2907	2907	2907
5°	2918	2871	2887
10°	2896	2824	2800
15°	2863	2740	2661
20°	2817	2621	2489
25°	2769	2485	2322
30°	2704	2345	2108
35°	2640	2194	1921
40°	2576	2037	1703
45°	2500	1861	1507
50°	2423	1682	1314
55°	2344	1491	1129
60°	2252	1289	937
65°	2148	1083	853
70°	2023	892	784
75°	1870	813	732
80°	1651	727	667
85°	1297	573	573

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2500 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.4	4.6
10°-20°	1005.9	12.5
20°-30°	1412.3	17.6
30°-40°	1539.5	19.1
40°-50°	1414.9	17.6
50°-60°	1111.2	13.8
60°-70°	723.3	9.0
70°-80°	372.3	4.6
80°-90°	95.1	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°	2784.6	34.6
0°-40°	4324.1	53.8
0°-60°	6850.3	85.2
0°-90°	8041.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8041.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3910	3910	3910	3910	3910	
5°	3910	3892	3846	3878	3867	371
15°	3719	3680	3560	3492	3457	1048
25°	3376	3262	3029	2884	2830	1552
35°	2909	2728	2417	2194	2116	1821
45°	2378	2140	1769	1518	1433	1836
55°	1808	1532	1150	938	871	1616
65°	1221	934	616	496	485	1210
75°	651	403	283	258	255	688
85°	152	78	67	67	67	182
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3909.8	3909.8	3909.8	3909.8	3909.8
2.5°	3927.4	3909.8	3870.8	3906.5	3899.3
5°	3909.8	3892.2	3846.0	3877.9	3867.4
7.5°	3877.9	3856.8	3807.3	3821.2	3803.5
10°	3835.5	3810.7	3740.1	3729.2	3708.2
12.5°	3782.5	3750.6	3654.9	3633.8	3594.8
15°	3718.7	3679.7	3559.5	3492.4	3457.0
17.5°	3644.4	3587.7	3439.1	3361.3	3304.6
20°	3559.5	3488.6	3311.8	3223.5	3145.4
22.5°	3467.6	3386.1	3180.8	3060.7	3007.7
25°	3375.6	3262.2	3028.7	2883.8	2830.5
27.5°	3266.0	3145.4	2887.2	2720.9	2639.4
30°	3149.2	3014.5	2731.4	2551.2	2455.5
32.5°	3035.9	2872.9	2583.1	2370.7	2282.1
35°	2908.6	2728.0	2416.9	2193.9	2115.8
37.5°	2784.8	2589.9	2261.0	2016.6	1928.5
40°	2653.7	2441.6	2098.1	1846.9	1755.0
42.5°	2519.3	2292.9	1935.6	1673.6	1585.3
45°	2377.8	2140.5	1769.3	1517.7	1432.9
47.5°	2243.4	1992.3	1610.1	1358.5	1280.9
50°	2094.7	1843.6	1454.3	1209.9	1136.0
52.5°	1949.4	1684.1	1305.7	1072.2	1004.9
55°	1807.9	1532.0	1149.8	937.7	870.6
57.5°	1663.1	1380.0	1012.0	813.9	757.1
60°	1514.4	1231.3	866.8	686.6	630.0
62.5°	1369.5	1086.4	743.0	573.3	545.1
65°	1220.8	934.0	615.7	495.5	484.6
67.5°	1079.3	792.5	495.5	435.1	424.6
70°	930.6	654.7	410.3	375.0	360.8
72.5°	789.0	527.1	343.1	314.9	307.8
75°	650.9	403.2	283.0	258.3	254.9
77.5°	513.2	286.5	223.0	208.7	201.6
80°	385.5	205.4	169.7	155.8	155.8
82.5°	268.8	138.1	116.8	109.6	109.6
85°	152.0	77.7	67.2	67.2	67.2
87.5°	56.7	28.1	28.1	24.8	24.8
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	14.94	16.46	15.31	16.78	17.09	10.90	12.42	11.27	12.74	13.05
	3H	16.71	18.07	17.09	18.40	18.76	12.17	13.53	12.55	13.86	14.22
	4H	17.37	18.65	17.77	19.00	19.38	12.67	13.95	13.07	14.30	14.68
	6H	17.86	19.05	18.28	19.41	19.80	13.05	14.23	13.46	14.60	14.99
	8H	18.03	19.15	18.45	19.54	19.95	13.18	14.30	13.60	14.69	15.09
	12H	18.13	19.21	18.56	19.59	20.02	13.26	14.33	13.69	14.72	15.15
4H	2H	15.05	16.33	15.45	16.68	17.05	11.60	12.88	12.00	13.23	13.61
	3H	16.98	18.04	17.39	18.44	18.84	13.04	14.10	13.45	14.50	14.91
	4H	17.73	18.69	18.16	19.10	19.54	13.64	14.60	14.07	15.01	15.45
	6H	18.32	19.15	18.78	19.60	20.06	14.13	14.96	14.59	15.40	15.86
	8H	18.54	19.31	19.00	19.76	20.22	14.29	15.07	14.75	15.51	15.98
	12H	18.69	19.38	19.17	19.86	20.33	14.41	15.10	14.89	15.58	16.05
8H	4H	17.75	18.53	18.22	18.97	19.44	13.99	14.77	14.46	15.22	15.68
	6H	18.39	19.03	18.89	19.52	20.00	14.58	15.22	15.08	15.72	16.19
	8H	18.64	19.22	19.16	19.73	20.22	14.80	15.38	15.32	15.89	16.38
	12H	18.85	19.36	19.35	19.85	20.41	14.98	15.49	15.49	15.98	16.55
12H	4H	17.74	18.43	18.22	18.91	19.38	14.04	14.73	14.52	15.21	15.68
	6H	18.37	18.95	18.89	19.46	19.95	14.64	15.22	15.16	15.73	16.22
	8H	18.66	19.17	19.17	19.66	20.22	14.92	15.43	15.43	15.92	16.48