

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: P930408

Luminaire Tested: DFN2DS-HX4F0-120DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930408
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-HX4F0-120DS927-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

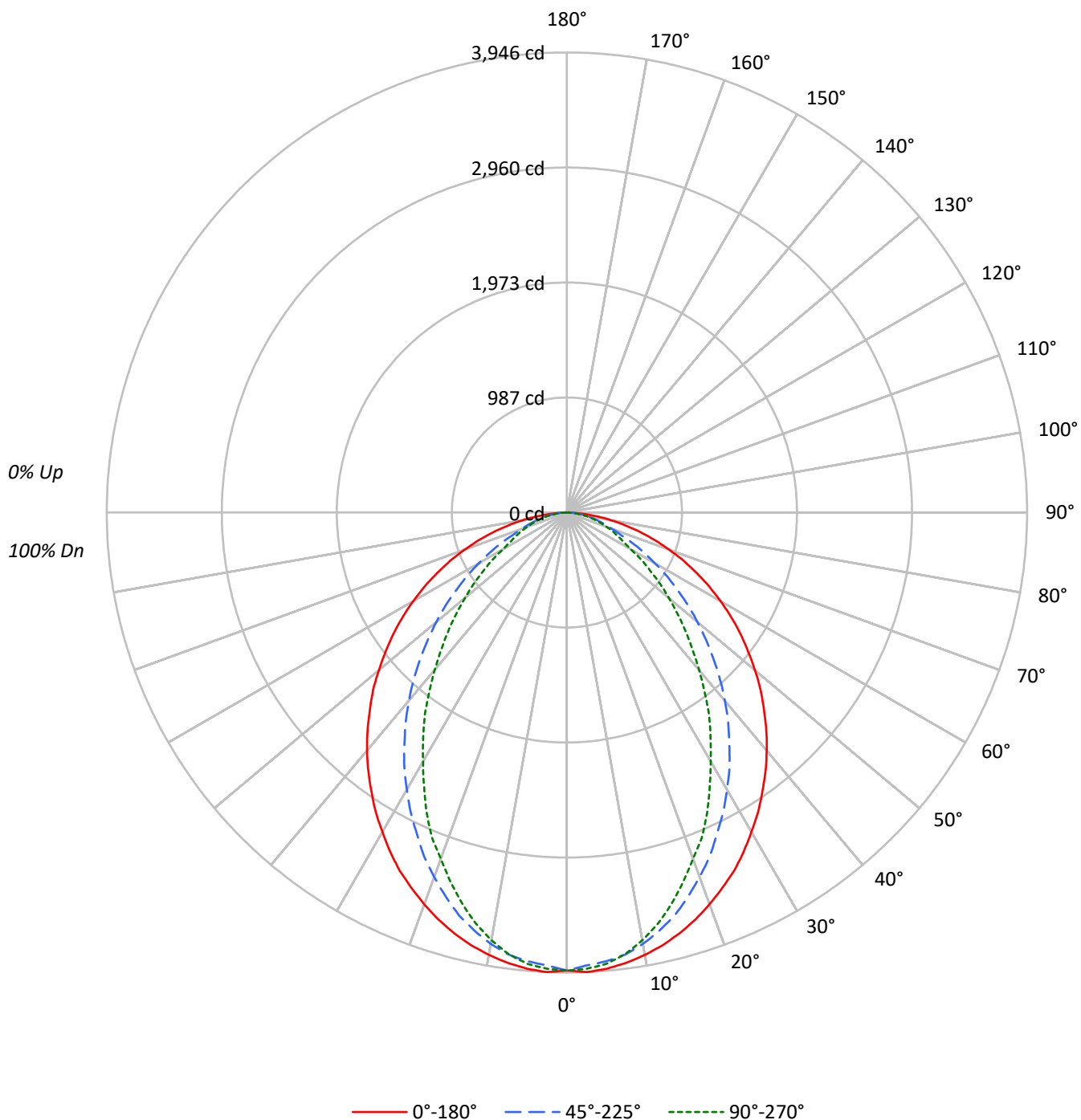
Lumens per Lamp: N/A
Luminaire Lumens: 8078.4 lumens
Efficiency: N/A
Efficacy: 61.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 131
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9954
Total Harmonic Distortion (THDi): 0.076
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°	2921	2921	2921
5°	2932	2884	2900
10°	2909	2837	2813
15°	2876	2753	2674
20°	2830	2633	2501
25°	2782	2496	2333
30°	2717	2356	2118
35°	2653	2204	1929
40°	2588	2046	1711
45°	2512	1869	1514
50°	2434	1690	1320
55°	2355	1498	1134
60°	2263	1295	941
65°	2158	1088	857
70°	2033	896	788
75°	1879	817	736
80°	1659	730	670
85°	1304	576	576

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2512 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	368.1	4.6
10°-20°	1010.6	12.5
20°-30°	1418.9	17.6
30°-40°	1546.6	19.1
40°-50°	1421.5	17.6
50°-60°	1116.4	13.8
60°-70°	726.7	9.0
70°-80°	374.1	4.6
80°-90°	95.5	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°	2797.6	34.6
0°-40°	4344.2	53.8
0°-60°	6882.2	85.2
0°-90°	8078.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8078.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3928	3928	3928	3928	3928	
5°	3928	3910	3864	3896	3885	372
15°	3736	3697	3576	3509	3473	1053
25°	3391	3277	3043	2897	2844	1560
35°	2922	2741	2428	2204	2126	1829
45°	2389	2150	1778	1525	1440	1845
55°	1816	1539	1155	942	875	1623
65°	1226	938	619	498	487	1216
75°	654	405	284	260	256	692
85°	153	78	68	68	68	183
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3928.0	3928.0	3928.0	3928.0	3928.0
2.5°	3945.7	3928.0	3888.8	3924.6	3917.4
5°	3928.0	3910.3	3863.9	3895.9	3885.4
7.5°	3895.9	3874.8	3825.0	3839.0	3821.2
10°	3853.3	3828.4	3757.5	3746.6	3725.5
12.5°	3800.1	3768.1	3671.9	3650.8	3611.6
15°	3736.0	3696.8	3576.1	3508.6	3473.2
17.5°	3661.3	3604.4	3455.0	3377.0	3320.1
20°	3576.1	3504.8	3327.2	3238.6	3160.1
22.5°	3483.7	3401.9	3195.6	3074.9	3021.7
25°	3391.3	3277.4	3042.8	2897.2	2843.7
27.5°	3281.2	3160.1	2900.6	2733.6	2651.7
30°	3163.9	3028.5	2744.1	2563.1	2466.9
32.5°	3050.0	2886.3	2595.1	2381.7	2292.7
35°	2922.2	2740.7	2428.0	2204.1	2125.6
37.5°	2797.7	2602.0	2271.5	2026.0	1937.4
40°	2666.0	2453.0	2107.9	1855.6	1763.2
42.5°	2531.0	2303.6	1944.6	1681.3	1592.7
45°	2388.8	2150.5	1777.5	1524.8	1439.5
47.5°	2253.8	2001.5	1617.6	1364.9	1286.8
50°	2104.5	1852.2	1461.1	1215.6	1141.3
52.5°	1958.5	1691.9	1311.7	1077.1	1009.6
55°	1816.4	1539.2	1155.2	942.1	874.6
57.5°	1670.7	1386.4	1016.8	817.7	760.7
60°	1521.4	1237.0	870.8	689.8	632.9
62.5°	1375.9	1091.5	746.4	575.9	547.6
65°	1226.5	938.4	618.6	497.9	486.9
67.5°	1084.3	796.1	497.9	437.1	426.6
70°	935.0	657.8	412.2	376.8	362.4
72.5°	792.8	529.5	344.7	316.4	309.3
75°	654.0	405.0	284.4	259.5	256.1
77.5°	515.6	287.7	224.1	209.7	202.5
80°	387.4	206.3	170.4	156.5	156.5
82.5°	270.1	138.8	117.3	110.1	110.1
85°	152.8	78.1	67.5	67.5	67.5
87.5°	56.9	28.3	28.3	24.9	24.9
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	14.96	16.48	15.32	16.79	17.11	10.92	12.44	11.28	12.75	13.07
	3H	16.72	18.09	17.10	18.42	18.78	12.18	13.55	12.56	13.88	14.24
	4H	17.39	18.67	17.79	19.02	19.40	12.69	13.97	13.09	14.32	14.69
	6H	17.88	19.06	18.29	19.43	19.82	13.07	14.25	13.48	14.62	15.01
	8H	18.04	19.17	18.47	19.56	19.96	13.19	14.32	13.62	14.71	15.11
	12H	18.15	19.23	18.58	19.61	20.04	13.27	14.35	13.70	14.73	15.16
4H	2H	15.06	16.34	15.46	16.69	17.07	11.62	12.90	12.01	13.24	13.62
	3H	17.00	18.06	17.41	18.46	18.86	13.06	14.12	13.47	14.52	14.92
	4H	17.75	18.70	18.18	19.12	19.56	13.66	14.61	14.09	15.03	15.47
	6H	18.34	19.17	18.79	19.61	20.07	14.15	14.98	14.60	15.42	15.88
	8H	18.55	19.33	19.02	19.77	20.24	14.31	15.08	14.77	15.53	16.00
	12H	18.71	19.40	19.19	19.88	20.35	14.42	15.12	14.91	15.60	16.07
8H	4H	17.77	18.55	18.23	18.99	19.46	14.01	14.79	14.47	15.23	15.70
	6H	18.41	19.05	18.90	19.54	20.02	14.60	15.24	15.09	15.73	16.21
	8H	18.66	19.23	19.17	19.74	20.23	14.82	15.40	15.33	15.91	16.39
	12H	18.86	19.37	19.37	19.86	20.43	15.00	15.51	15.51	16.00	16.56
12H	4H	17.75	18.45	18.24	18.93	19.40	14.05	14.75	14.54	15.23	15.70
	6H	18.39	18.97	18.90	19.48	19.96	14.66	15.24	15.17	15.75	16.24
	8H	18.67	19.18	19.18	19.67	20.24	14.93	15.44	15.44	15.94	16.50