

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: P930376

Luminaire Tested: DFN2DS-HX4F0-100DS935-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930376
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-HX4F0-100DS935-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

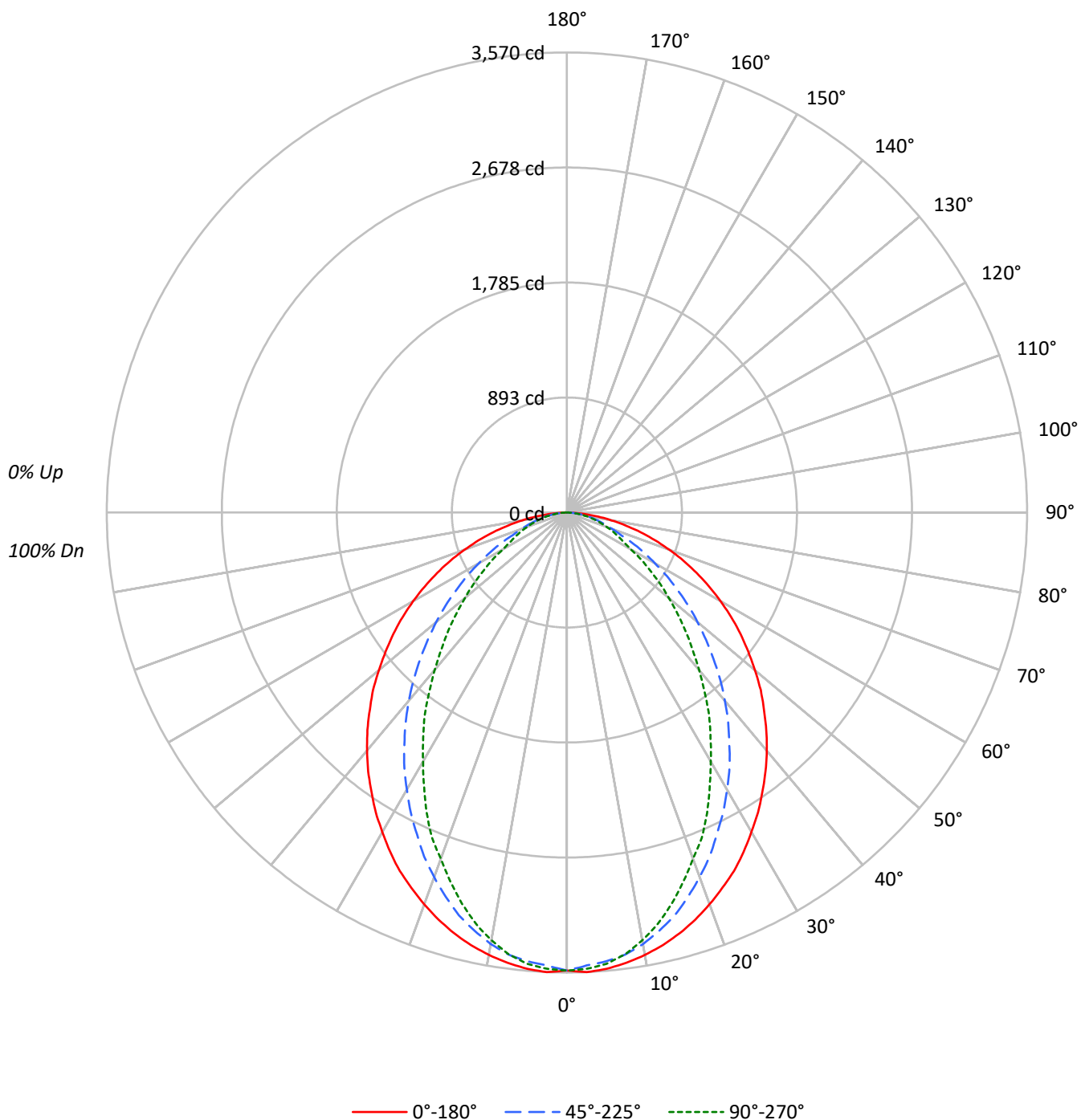
Lumens per Lamp: N/A
Luminaire Lumens: 7310.0 lumens
Efficiency: N/A
Efficacy: 70.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 104.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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°	2643	2643	2643
5°	2653	2610	2624
10°	2633	2567	2545
15°	2602	2491	2419
20°	2561	2382	2263
25°	2518	2259	2111
30°	2458	2132	1917
35°	2400	1994	1746
40°	2342	1851	1549
45°	2273	1691	1370
50°	2203	1529	1195
55°	2131	1355	1026
60°	2047	1172	852
65°	1953	985	775
70°	1839	811	713
75°	1700	739	666
80°	1500	661	606
85°	1179	521	521

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 2273 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.1	4.6
10°-20°	914.5	12.5
20°-30°	1283.9	17.6
30°-40°	1399.5	19.1
40°-50°	1286.3	17.6
50°-60°	1010.2	13.8
60°-70°	657.6	9.0
70°-80°	338.5	4.6
80°-90°	86.4	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°	2531.5	34.6
0°-40°	3931.0	53.8
0°-60°	6227.6	85.2
0°-90°	7310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7310.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3554	3554	3554	3554	3554	
5°	3554	3538	3496	3525	3516	337
15°	3381	3345	3236	3175	3143	953
25°	3069	2966	2753	2622	2573	1411
35°	2644	2480	2197	1994	1923	1655
45°	2162	1946	1608	1380	1303	1669
55°	1644	1393	1045	852	791	1469
65°	1110	849	560	450	441	1100
75°	592	366	257	235	232	626
85°	138	71	61	61	61	166
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3554.4	3554.4	3554.4	3554.4	3554.4
2.5°	3570.4	3554.4	3518.9	3551.3	3544.8
5°	3554.4	3538.3	3496.3	3525.4	3515.8
7.5°	3525.4	3506.2	3461.2	3473.8	3457.8
10°	3486.8	3464.3	3400.1	3390.2	3371.1
12.5°	3438.7	3409.6	3322.6	3303.5	3268.0
15°	3380.7	3345.1	3235.9	3174.9	3142.8
17.5°	3313.1	3261.5	3126.4	3055.8	3004.2
20°	3235.9	3171.4	3010.7	2930.5	2859.5
22.5°	3152.3	3078.3	2891.6	2782.4	2734.3
25°	3068.7	2965.7	2753.4	2621.6	2573.2
27.5°	2969.1	2859.5	2624.7	2473.5	2399.5
30°	2862.9	2740.4	2483.1	2319.3	2232.3
32.5°	2759.9	2611.7	2348.3	2155.2	2074.6
35°	2644.2	2480.1	2197.1	1994.4	1923.4
37.5°	2531.6	2354.4	2055.5	1833.3	1753.1
40°	2412.5	2219.7	1907.4	1679.1	1595.5
42.5°	2290.3	2084.5	1759.6	1521.4	1441.2
45°	2161.6	1945.9	1608.5	1379.8	1302.6
47.5°	2039.5	1811.2	1463.7	1235.0	1164.4
50°	1904.3	1676.0	1322.1	1099.9	1032.7
52.5°	1772.2	1531.0	1187.0	974.6	913.6
55°	1643.5	1392.8	1045.3	852.5	791.4
57.5°	1511.9	1254.5	920.1	739.9	688.3
60°	1376.7	1119.4	788.0	624.2	572.7
62.5°	1244.9	987.6	675.4	521.2	495.5
65°	1109.8	849.1	559.7	450.5	440.6
67.5°	981.2	720.4	450.5	395.5	386.0
70°	846.0	595.2	373.0	340.9	328.0
72.5°	717.3	479.1	311.9	286.3	279.8
75°	591.8	366.5	257.3	234.8	231.7
77.5°	466.6	260.4	202.7	189.7	183.3
80°	350.4	186.7	154.3	141.6	141.6
82.5°	244.3	125.6	106.1	99.7	99.7
85°	138.2	70.6	61.1	61.1	61.1
87.5°	51.5	25.6	25.6	22.5	22.5
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	14.61	16.13	14.98	16.45	16.76	10.57	12.09	10.94	12.41	12.72
	3H	16.38	17.74	16.75	18.07	18.43	11.84	13.20	12.21	13.53	13.89
	4H	17.04	18.32	17.44	18.67	19.05	12.34	13.62	12.74	13.97	14.35
	6H	17.53	18.71	17.94	19.08	19.47	12.72	13.90	13.13	14.27	14.66
	8H	17.70	18.82	18.12	19.21	19.61	12.84	13.97	13.27	14.36	14.76
	12H	17.80	18.88	18.23	19.26	19.69	12.93	14.00	13.36	14.39	14.82
4H	2H	14.72	16.00	15.12	16.34	16.72	11.27	12.55	11.67	12.90	13.28
	3H	16.65	17.71	17.06	18.11	18.51	12.71	13.77	13.12	14.17	14.57
	4H	17.40	18.35	17.83	18.77	19.21	13.31	14.27	13.74	14.68	15.12
	6H	17.99	18.82	18.45	19.26	19.72	13.80	14.63	14.26	15.07	15.53
	8H	18.20	18.98	18.67	19.43	19.89	13.96	14.74	14.42	15.18	15.65
	12H	18.36	19.05	18.84	19.53	20.00	14.08	14.77	14.56	15.25	15.72
8H	4H	17.42	18.20	17.89	18.64	19.11	13.66	14.44	14.13	14.89	15.35
	6H	18.06	18.70	18.56	19.19	19.67	14.25	14.89	14.75	15.38	15.86
	8H	18.31	18.89	18.82	19.40	19.88	14.47	15.05	14.99	15.56	16.05
	12H	18.51	19.02	19.02	19.52	20.08	14.65	15.16	15.16	15.65	16.22
12H	4H	17.41	18.10	17.89	18.58	19.05	13.71	14.40	14.19	14.88	15.35
	6H	18.04	18.62	18.55	19.13	19.62	14.31	14.89	14.83	15.40	15.89
	8H	18.32	18.83	18.83	19.33	19.89	14.59	15.10	15.10	15.59	16.15