

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: P930309

Luminaire Tested: DFN2DS-HX4F0-070DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930309
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-HX4F0-070DS830-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

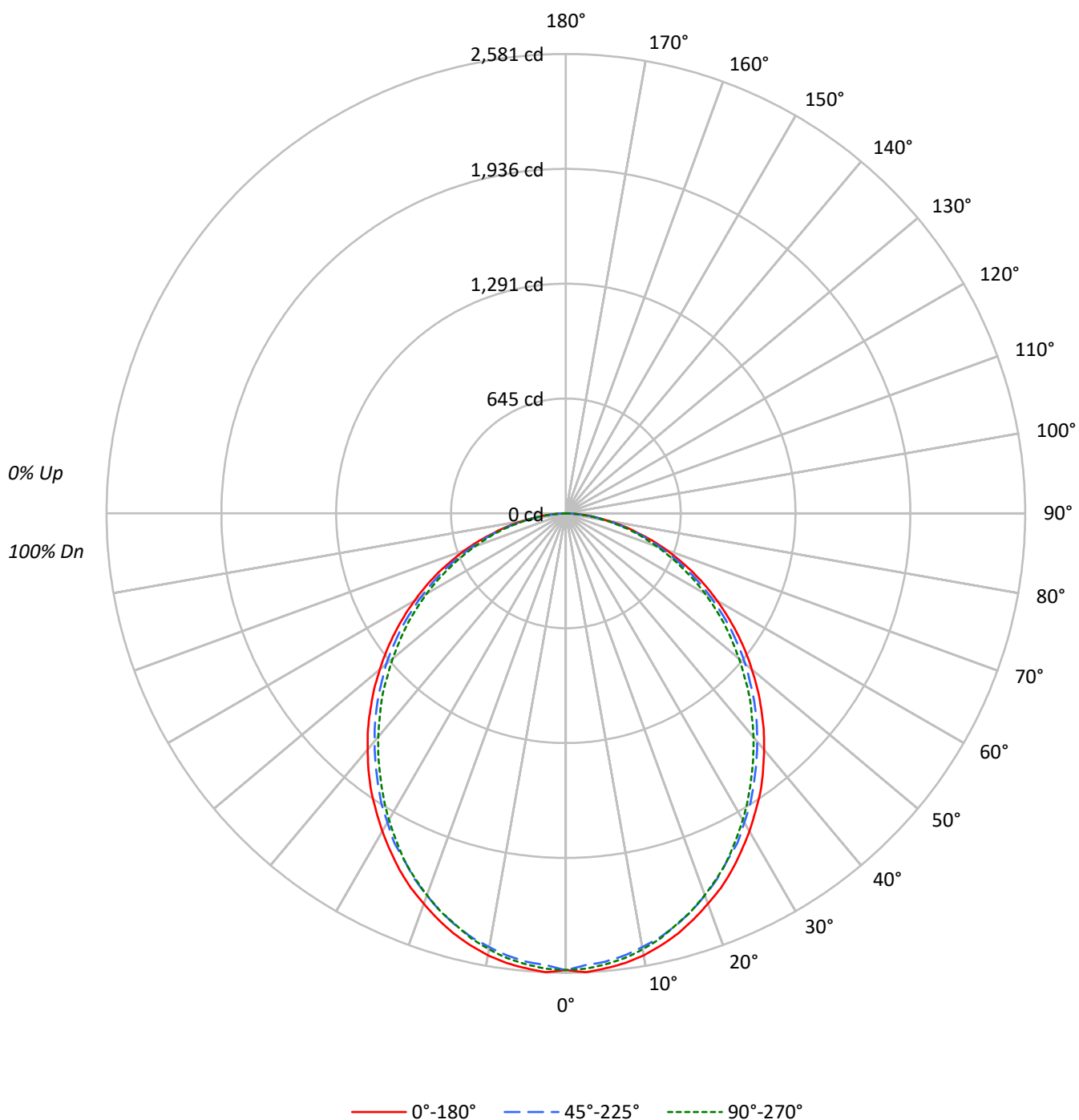
Lumens per Lamp: N/A
Luminaire Lumens: 6528.1 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 71.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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°	1908	1908	1908
5°	1915	1888	1899
10°	1904	1868	1878
15°	1880	1844	1842
20°	1847	1808	1806
25°	1814	1763	1763
30°	1771	1722	1707
35°	1731	1673	1648
40°	1681	1624	1593
45°	1632	1575	1536
50°	1578	1524	1470
55°	1523	1465	1411
60°	1460	1394	1343
65°	1394	1324	1263
70°	1309	1239	1180
75°	1191	1141	1113
80°	1057	1025	972
85°	863	822	737

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1632 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.5	3.7
10°-20°	679.5	10.4
20°-30°	998.5	15.3
30°-40°	1159.7	17.8
40°-50°	1158.3	17.7
50°-60°	1010.0	15.5
60°-70°	746.6	11.4
70°-80°	422.4	6.5
80°-90°	111.5	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°	1919.5	29.4
0°-40°	3079.2	47.2
0°-60°	5247.5	80.4
0°-90°	6528.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6528.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2566	2566	2566	2566	2566	
5°	2566	2556	2529	2548	2544	244
15°	2442	2428	2396	2406	2393	688
25°	2211	2191	2149	2154	2149	1017
35°	1907	1883	1843	1828	1816	1191
45°	1552	1535	1498	1471	1461	1198
55°	1174	1160	1130	1100	1088	1050
65°	792	777	753	730	718	783
75°	414	410	397	382	387	442
85°	101	99	96	89	86	119
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2565.7	2565.7	2565.7	2565.7	2565.7
2.5°	2580.7	2568.4	2541.1	2565.7	2561.0
5°	2565.7	2556.1	2528.9	2548.5	2543.8
7.5°	2548.5	2533.8	2506.6	2526.5	2521.5
10°	2521.5	2504.2	2474.6	2494.3	2487.0
12.5°	2484.3	2469.7	2440.2	2452.4	2447.4
15°	2442.5	2427.8	2395.6	2405.6	2393.2
17.5°	2390.6	2376.0	2343.8	2356.1	2343.8
20°	2333.8	2319.2	2284.6	2292.0	2282.3
22.5°	2277.3	2255.1	2222.8	2222.8	2217.8
25°	2210.6	2190.9	2149.1	2153.8	2149.1
27.5°	2136.5	2119.2	2087.3	2079.9	2067.6
30°	2062.7	2042.7	2005.9	1998.5	1988.6
32.5°	1983.6	1969.0	1929.4	1914.5	1904.5
35°	1907.2	1882.6	1843.0	1828.1	1815.8
37.5°	1820.8	1798.6	1759.0	1741.8	1729.4
40°	1732.1	1712.2	1672.6	1650.7	1640.7
42.5°	1645.7	1625.8	1586.5	1561.6	1547.0
45°	1551.9	1534.7	1497.5	1470.6	1460.6
47.5°	1460.6	1443.3	1403.8	1376.5	1361.9
50°	1364.3	1352.0	1317.4	1282.9	1270.6
52.5°	1270.6	1253.3	1221.4	1194.2	1176.8
55°	1174.5	1159.6	1130.0	1100.4	1088.1
57.5°	1078.2	1065.9	1033.7	1004.1	994.2
60°	981.8	972.1	937.7	910.4	903.1
62.5°	888.1	870.9	846.3	821.7	811.7
65°	792.1	777.2	752.6	730.3	718.0
67.5°	693.4	680.9	658.8	641.6	631.6
70°	602.0	592.1	569.8	552.6	542.9
72.5°	508.3	498.4	486.1	468.8	461.5
75°	414.4	409.7	397.1	382.5	387.4
77.5°	330.6	320.7	315.7	308.3	301.1
80°	246.8	244.3	239.3	231.9	226.9
82.5°	167.8	167.8	165.4	155.5	155.5
85°	101.1	98.7	96.4	88.7	86.4
87.5°	44.5	39.6	34.6	27.2	24.6
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	13.53	15.14	13.89	15.45	15.77	13.08	14.69	13.45	15.01	15.32
	3H	15.28	16.73	15.65	17.06	17.42	14.79	16.24	15.16	16.57	16.93
	4H	15.92	17.29	16.32	17.64	18.02	15.43	16.80	15.83	17.15	17.52
	6H	16.39	17.66	16.80	18.03	18.42	15.89	17.16	16.30	17.52	17.92
	8H	16.54	17.75	16.96	18.14	18.53	16.03	17.24	16.46	17.63	18.03
	12H	16.63	17.79	17.06	18.17	18.60	16.11	17.27	16.54	17.66	18.08
4H	2H	14.09	15.46	14.49	15.80	16.18	13.73	15.10	14.13	15.45	15.83
	3H	16.06	17.21	16.47	17.61	18.01	15.66	16.80	16.07	17.20	17.60
	4H	16.84	17.87	17.27	18.29	18.72	16.42	17.45	16.85	17.86	18.30
	6H	17.44	18.34	17.89	18.78	19.24	17.00	17.91	17.46	18.35	18.80
	8H	17.63	18.47	18.09	18.91	19.38	17.19	18.03	17.65	18.48	18.94
	12H	17.76	18.52	18.24	18.99	19.46	17.30	18.06	17.78	18.54	19.01
8H	4H	17.11	17.96	17.57	18.40	18.87	16.74	17.58	17.20	18.03	18.49
	6H	17.83	18.53	18.32	19.02	19.49	17.45	18.15	17.94	18.64	19.11
	8H	18.09	18.72	18.60	19.22	19.71	17.69	18.32	18.20	18.83	19.32
	12H	18.29	18.84	18.79	19.33	19.90	17.87	18.43	18.38	18.92	19.48
12H	4H	17.14	17.90	17.62	18.37	18.84	16.77	17.53	17.25	18.01	18.48
	6H	17.87	18.50	18.38	19.01	19.50	17.50	18.14	18.01	18.64	19.13
	8H	18.19	18.74	18.69	19.23	19.80	17.81	18.37	18.31	18.86	19.42