

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: P930337

Luminaire Tested: DFN2DS-HX4F0-080DS930-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930337
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-HX4F0-080DS930-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

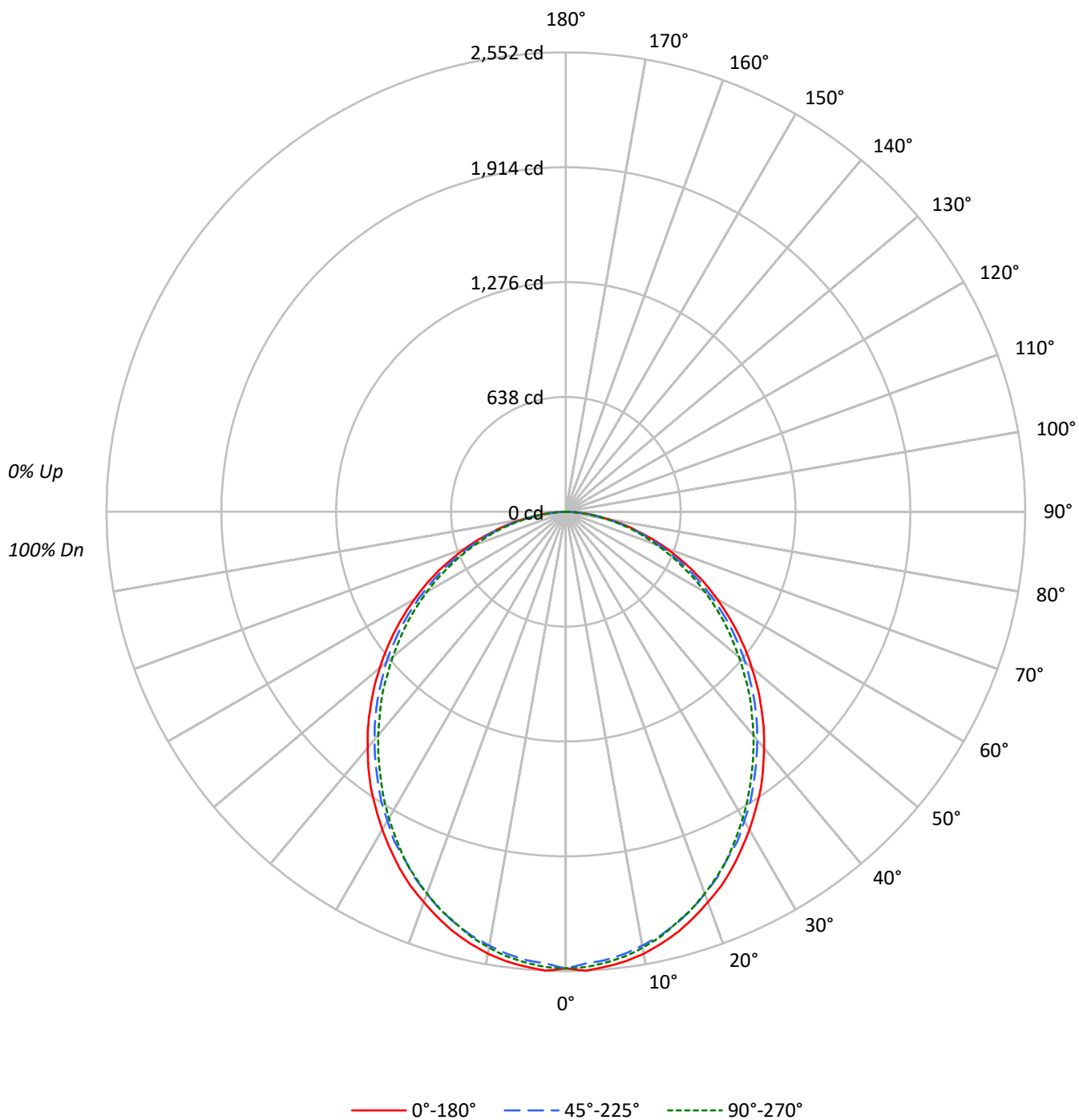
Lumens per Lamp: N/A
Luminaire Lumens: 6454.8 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 81.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9613
Total Harmonic Distortion (THDi): 0.083
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930337

CATALOG NUMBER: DFN2DS-HX4F0-080DS930-FLL

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°	1886	1886	1886
5°	1894	1866	1877
10°	1882	1847	1857
15°	1859	1823	1822
20°	1826	1788	1786
25°	1793	1743	1743
30°	1751	1703	1688
35°	1712	1654	1630
40°	1662	1605	1575
45°	1614	1557	1519
50°	1560	1507	1453
55°	1505	1449	1395
60°	1444	1379	1328
65°	1378	1309	1249
70°	1294	1225	1167
75°	1177	1128	1100
80°	1045	1013	961
85°	852	813	729

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1614 cd/sqm

TEST NUMBER: P930337

CATALOG NUMBER: DFN2DS-HX4F0-080DS930-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.8	3.7
10°-20°	671.8	10.4
20°-30°	987.3	15.3
30°-40°	1146.7	17.8
40°-50°	1145.3	17.7
50°-60°	998.7	15.5
60°-70°	738.2	11.4
70°-80°	417.7	6.5
80°-90°	110.2	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°	1898.0	29.4
0°-40°	3044.7	47.2
0°-60°	5188.6	80.4
0°-90°	6454.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6454.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2537	2537	2537	2537	2537	
5°	2537	2527	2500	2520	2515	241
15°	2415	2401	2369	2379	2366	680
25°	2186	2166	2125	2130	2125	1006
35°	1886	1862	1822	1808	1795	1178
45°	1535	1517	1481	1454	1444	1184
55°	1161	1146	1117	1088	1076	1038
65°	783	768	744	722	710	774
75°	410	405	393	378	383	437
85°	100	98	95	88	85	117
90°	0	0	0	0	0	

TEST NUMBER: P930337

CATALOG NUMBER: DFN2DS-HX4F0-080DS930-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2536.9	2536.9	2536.9	2536.9	2536.9
2.5°	2551.7	2539.5	2512.6	2536.9	2532.3
5°	2536.9	2527.4	2500.5	2519.9	2515.3
7.5°	2519.9	2505.4	2478.5	2498.1	2493.2
10°	2493.2	2476.1	2446.9	2466.3	2459.1
12.5°	2456.5	2442.0	2412.7	2424.9	2420.0
15°	2415.1	2400.6	2368.7	2378.6	2366.4
17.5°	2363.8	2349.3	2317.5	2329.7	2317.5
20°	2307.7	2293.2	2259.0	2266.3	2256.7
22.5°	2251.8	2229.8	2197.9	2197.9	2193.0
25°	2185.7	2166.4	2124.9	2129.6	2124.9
27.5°	2112.5	2095.4	2063.8	2056.6	2044.4
30°	2039.5	2019.8	1983.4	1976.1	1966.3
32.5°	1961.4	1946.9	1907.8	1893.0	1883.2
35°	1885.7	1861.5	1822.3	1807.6	1795.4
37.5°	1800.3	1778.3	1739.3	1722.2	1710.0
40°	1712.6	1692.9	1653.9	1632.1	1622.3
42.5°	1627.2	1607.5	1568.7	1544.1	1529.7
45°	1534.6	1517.4	1480.7	1454.0	1444.3
47.5°	1444.3	1427.1	1388.0	1361.1	1346.6
50°	1349.0	1336.8	1302.6	1268.5	1256.3
52.5°	1256.3	1239.2	1207.7	1180.8	1163.7
55°	1161.3	1146.5	1117.4	1088.1	1075.9
57.5°	1066.1	1054.0	1022.1	992.8	983.0
60°	970.8	961.3	927.1	900.2	892.9
62.5°	878.2	861.1	836.8	812.5	802.6
65°	783.2	768.5	744.1	722.1	709.9
67.5°	685.6	673.2	651.4	634.4	624.5
70°	595.3	585.4	563.5	546.4	536.8
72.5°	502.6	492.8	480.6	463.6	456.3
75°	409.7	405.1	392.7	378.2	383.0
77.5°	326.9	317.0	312.1	304.9	297.6
80°	244.1	241.5	236.6	229.3	224.4
82.5°	165.9	165.9	163.6	153.7	153.7
85°	99.9	97.6	95.3	87.8	85.4
87.5°	44.0	39.1	34.1	26.9	24.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930337

CATALOG NUMBER: DFN2DS-HX4F0-080DS930-FLL

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	13.49	15.10	13.85	15.41	15.73	13.04	14.65	13.41	14.97	15.28
	3H	15.24	16.69	15.61	17.02	17.38	14.75	16.20	15.12	16.53	16.89
	4H	15.88	17.25	16.28	17.60	17.98	15.39	16.76	15.79	17.11	17.48
	6H	16.35	17.62	16.76	17.99	18.38	15.85	17.12	16.26	17.48	17.88
	8H	16.50	17.71	16.92	18.10	18.50	15.99	17.20	16.42	17.59	17.99
	12H	16.59	17.75	17.02	18.13	18.56	16.07	17.23	16.50	17.62	18.04
4H	2H	14.05	15.42	14.45	15.77	16.14	13.69	15.06	14.09	15.41	15.79
	3H	16.02	17.17	16.43	17.57	17.97	15.62	16.76	16.03	17.16	17.56
	4H	16.80	17.84	17.23	18.25	18.69	16.38	17.41	16.81	17.83	18.26
	6H	17.40	18.30	17.85	18.74	19.20	16.96	17.87	17.42	18.31	18.77
	8H	17.59	18.43	18.05	18.87	19.34	17.15	17.99	17.61	18.44	18.90
	12H	17.72	18.48	18.20	18.95	19.42	17.27	18.03	17.75	18.50	18.97
8H	4H	17.07	17.92	17.53	18.36	18.83	16.70	17.55	17.16	17.99	18.45
	6H	17.79	18.49	18.28	18.98	19.45	17.41	18.11	17.90	18.60	19.07
	8H	18.05	18.68	18.56	19.18	19.67	17.65	18.29	18.16	18.79	19.28
	12H	18.25	18.80	18.75	19.29	19.86	17.83	18.39	18.34	18.88	19.44
12H	4H	17.10	17.86	17.58	18.33	18.80	16.73	17.49	17.21	17.97	18.44
	6H	17.83	18.46	18.34	18.97	19.46	17.46	18.10	17.97	18.60	19.09
	8H	18.15	18.70	18.65	19.20	19.76	17.77	18.33	18.28	18.82	19.38