

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: P930277

Luminaire Tested: DFN2DS-HX4F0-050DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930277
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-HX4F0-050DS840-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

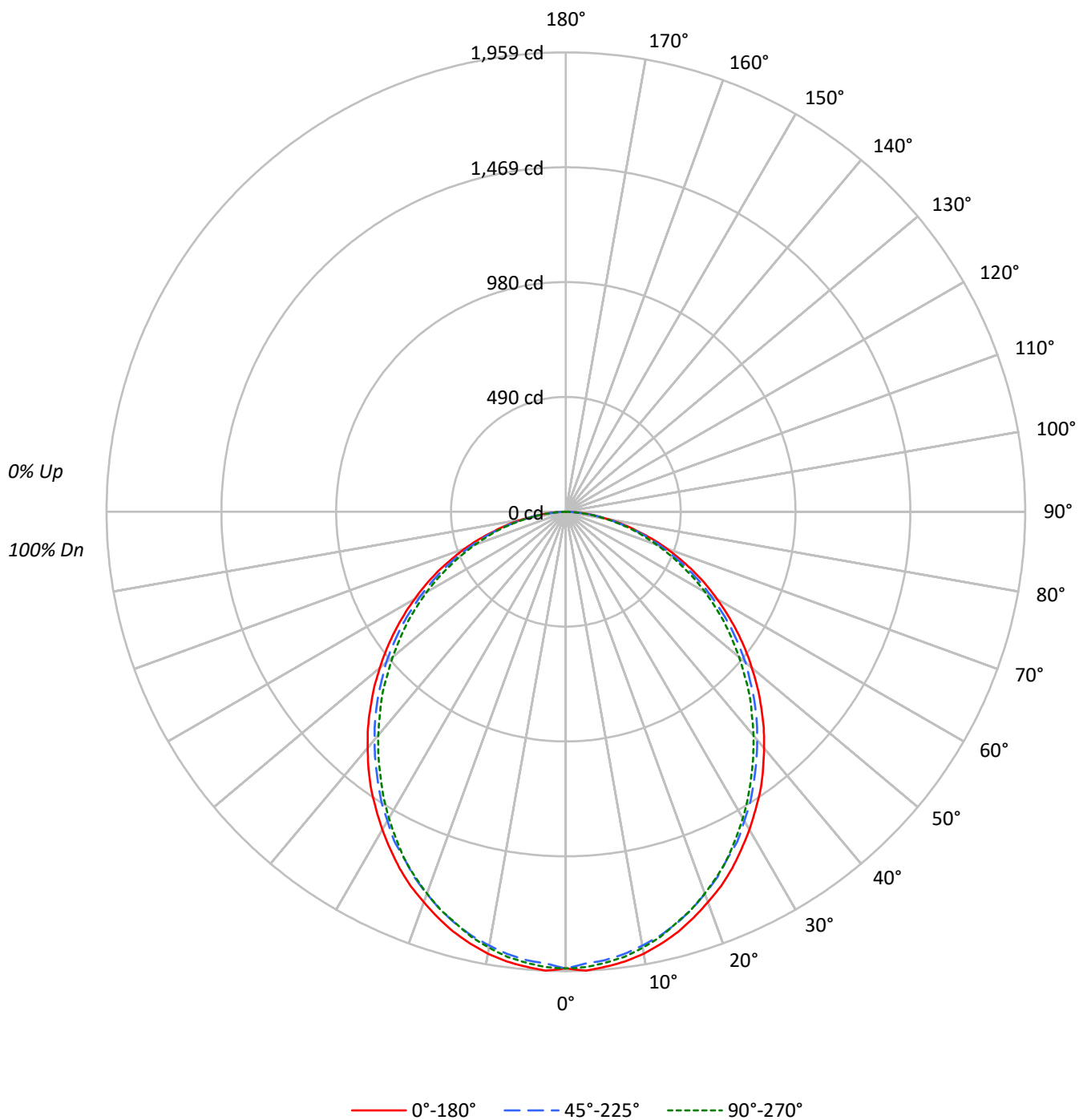
Lumens per Lamp: N/A
Luminaire Lumens: 4955.0 lumens
Efficiency: N/A
Efficacy: 102.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 48.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9957
Total Harmonic Distortion (THDi): 0.049
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P930277

CATALOG NUMBER: DFN2DS-HX4F0-050DS840-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P930277

CATALOG NUMBER: DFN2DS-HX4F0-050DS840-FLL

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°	1448	1448	1448
5°	1454	1433	1441
10°	1445	1418	1425
15°	1427	1400	1398
20°	1402	1372	1371
25°	1377	1338	1338
30°	1344	1307	1296
35°	1314	1270	1251
40°	1276	1232	1209
45°	1239	1195	1166
50°	1198	1157	1116
55°	1156	1112	1071
60°	1108	1058	1019
65°	1058	1005	959
70°	994	940	896
75°	904	866	845
80°	802	778	738
85°	654	624	560

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1239 cd/sqm

TEST NUMBER: P930277

CATALOG NUMBER: DFN2DS-HX4F0-050DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.3	3.7
10°-20°	515.7	10.4
20°-30°	757.9	15.3
30°-40°	880.3	17.8
40°-50°	879.2	17.7
50°-60°	766.6	15.5
60°-70°	566.7	11.4
70°-80°	320.6	6.5
80°-90°	84.6	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°	1456.9	29.4
0°-40°	2337.2	47.2
0°-60°	3983.0	80.4
0°-90°	4955.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4955.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1947	1947	1947	1947	1947	
5°	1947	1940	1919	1934	1931	185
15°	1854	1843	1818	1826	1816	522
25°	1678	1663	1631	1635	1631	772
35°	1448	1429	1399	1388	1378	904
45°	1178	1165	1137	1116	1109	909
55°	892	880	858	835	826	797
65°	601	590	571	554	545	594
75°	314	311	301	290	294	336
85°	77	75	73	67	66	90
90°	0	0	0	0	0	

TEST NUMBER: P930277

CATALOG NUMBER: DFN2DS-HX4F0-050DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1947.4	1947.4	1947.4	1947.4	1947.4
2.5°	1958.8	1949.4	1928.8	1947.4	1943.9
5°	1947.4	1940.1	1919.4	1934.3	1930.8
7.5°	1934.3	1923.2	1902.6	1917.7	1913.9
10°	1913.9	1900.8	1878.4	1893.2	1887.7
12.5°	1885.7	1874.6	1852.2	1861.5	1857.7
15°	1853.9	1842.7	1818.3	1825.9	1816.5
17.5°	1814.5	1803.4	1779.0	1788.3	1779.0
20°	1771.5	1760.4	1734.1	1739.6	1732.3
22.5°	1728.5	1711.6	1687.2	1687.2	1683.4
25°	1677.9	1663.0	1631.1	1634.7	1631.1
27.5°	1621.6	1608.5	1584.3	1578.7	1569.4
30°	1565.6	1550.5	1522.5	1516.9	1509.4
32.5°	1505.6	1494.5	1464.5	1453.2	1445.6
35°	1447.5	1428.9	1398.9	1387.6	1378.3
37.5°	1382.0	1365.2	1335.1	1322.0	1312.7
40°	1314.7	1299.6	1269.6	1252.9	1245.3
42.5°	1249.1	1234.0	1204.2	1185.3	1174.2
45°	1178.0	1164.9	1136.6	1116.2	1108.6
47.5°	1108.6	1095.5	1065.6	1044.8	1033.7
50°	1035.5	1026.2	1000.0	973.8	964.4
52.5°	964.4	951.3	927.0	906.4	893.3
55°	891.5	880.2	857.7	835.2	825.9
57.5°	818.3	809.0	784.6	762.2	754.6
60°	745.2	737.9	711.7	691.0	685.5
62.5°	674.2	661.1	642.3	623.6	616.1
65°	601.2	589.9	571.2	554.4	544.9
67.5°	526.3	516.8	500.1	487.0	479.4
70°	457.0	449.4	432.5	419.4	412.1
72.5°	385.9	378.3	369.0	355.9	350.2
75°	314.5	310.9	301.4	290.3	294.1
77.5°	251.0	243.3	239.6	234.0	228.5
80°	187.4	185.4	181.6	176.1	172.3
82.5°	127.3	127.3	125.5	118.0	118.0
85°	76.7	74.9	73.1	67.4	65.6
87.5°	33.7	30.0	26.2	20.6	18.7
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930277

CATALOG NUMBER: DFN2DS-HX4F0-050DS840-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	12.57	14.18	12.93	14.49	14.81	12.13	13.74	12.49	14.05	14.36
	3H	14.32	15.77	14.70	16.10	16.46	13.83	15.28	14.21	15.61	15.97
	4H	14.97	16.33	15.36	16.68	17.06	14.47	15.84	14.87	16.19	16.56
	6H	15.43	16.70	15.85	17.07	17.46	14.93	16.20	15.34	16.57	16.96
	8H	15.58	16.79	16.00	17.18	17.58	15.07	16.29	15.50	16.67	17.07
	12H	15.67	16.83	16.10	17.21	17.64	15.16	16.32	15.59	16.70	17.13
4H	2H	13.13	14.50	13.53	14.85	15.22	12.78	14.15	13.18	14.49	14.87
	3H	15.10	16.25	15.51	16.65	17.05	14.70	15.84	15.11	16.24	16.64
	4H	15.88	16.92	16.31	17.33	17.77	15.46	16.49	15.89	16.91	17.34
	6H	16.48	17.38	16.93	17.82	18.28	16.05	16.95	16.50	17.39	17.85
	8H	16.67	17.51	17.13	17.96	18.42	16.23	17.08	16.69	17.52	17.98
	12H	16.80	17.56	17.28	18.03	18.50	16.35	17.11	16.83	17.58	18.05
8H	4H	16.15	17.00	16.61	17.44	17.91	15.78	16.63	16.24	17.07	17.53
	6H	16.87	17.57	17.36	18.06	18.54	16.49	17.19	16.98	17.68	18.15
	8H	17.13	17.76	17.64	18.27	18.75	16.74	17.37	17.25	17.87	18.36
	12H	17.33	17.89	17.83	18.38	18.94	16.91	17.47	17.42	17.96	18.52
12H	4H	16.18	16.94	16.66	17.42	17.89	15.82	16.58	16.30	17.05	17.52
	6H	16.91	17.55	17.42	18.05	18.54	16.55	17.18	17.06	17.68	18.17
	8H	17.23	17.79	17.73	18.28	18.84	16.85	17.41	17.36	17.90	18.46