

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: P930270

Luminaire Tested: DFN2DS-HX4F0-040DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930270
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-HX4F0-040DS940-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

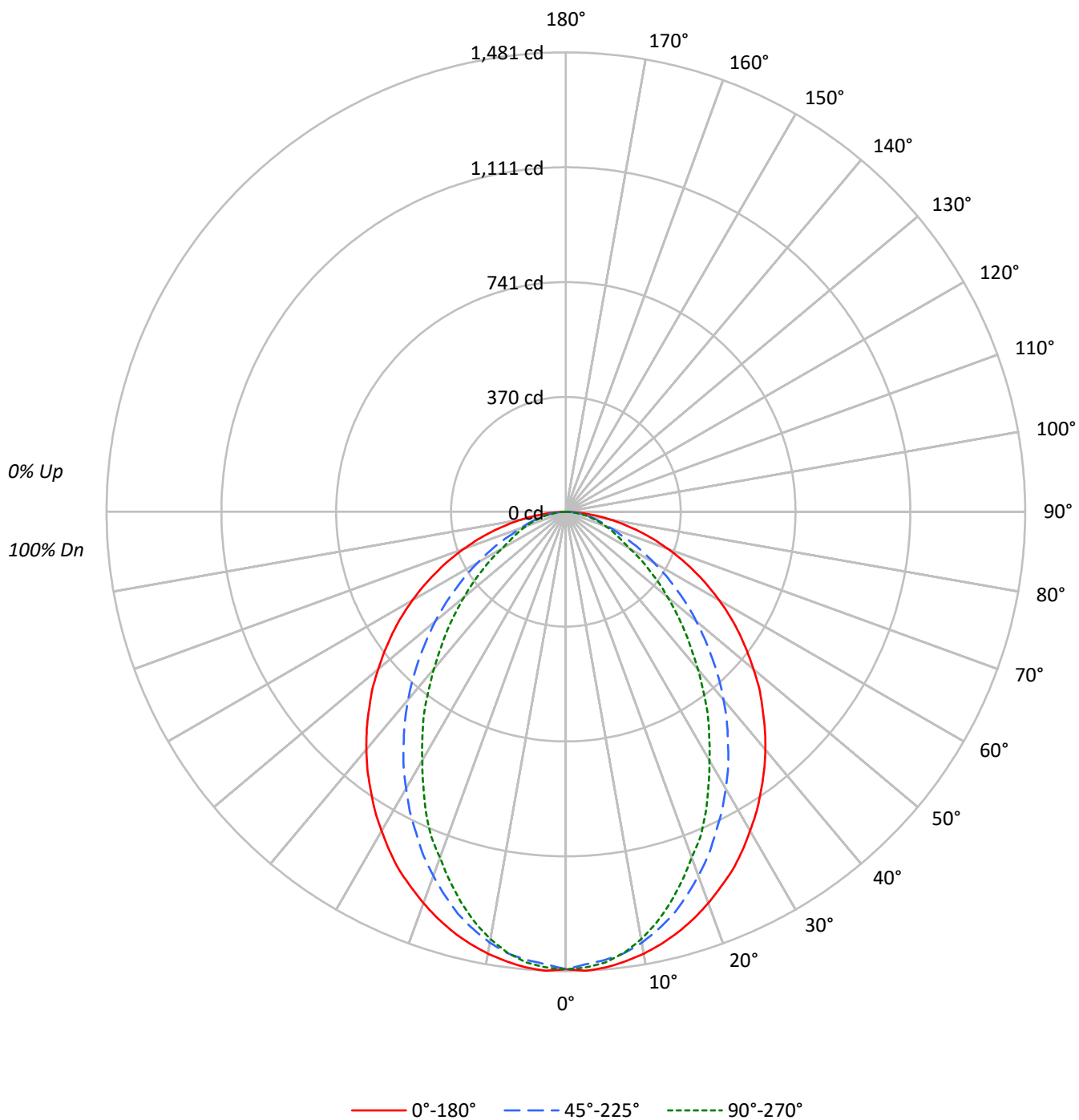
Lumens per Lamp: N/A
Luminaire Lumens: 3032.8 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 38.1
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
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: P930270

CATALOG NUMBER: DFN2DS-HX4F0-040DS940-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P930270

CATALOG NUMBER: DFN2DS-HX4F0-040DS940-RLL

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°	1097	1097	1097
5°	1101	1083	1089
10°	1092	1065	1056
15°	1080	1033	1004
20°	1062	988	939
25°	1045	937	876
30°	1020	885	795
35°	996	827	724
40°	972	768	643
45°	943	702	568
50°	914	634	496
55°	884	562	426
60°	849	486	353
65°	810	409	322
70°	763	337	296
75°	705	307	276
80°	623	274	252
85°	490	216	216

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 943 cd/sqm

TEST NUMBER: P930270

CATALOG NUMBER: DFN2DS-HX4F0-040DS940-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	4.6
10°-20°	379.4	12.5
20°-30°	532.7	17.6
30°-40°	580.6	19.1
40°-50°	533.7	17.6
50°-60°	419.1	13.8
60°-70°	272.8	9.0
70°-80°	140.4	4.6
80°-90°	35.9	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°	1050.3	34.6
0°-40°	1630.9	53.8
0°-60°	2583.7	85.2
0°-90°	3032.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3032.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1475	1475	1475	1475	1475	
5°	1475	1468	1451	1463	1459	140
15°	1403	1388	1342	1317	1304	395
25°	1273	1230	1142	1088	1068	586
35°	1097	1029	912	827	798	687
45°	897	807	667	572	540	693
55°	682	578	434	354	328	609
65°	460	352	232	187	183	457
75°	246	152	107	97	96	260
85°	57	29	25	25	25	69
90°	0	0	0	0	0	

TEST NUMBER: P930270

CATALOG NUMBER: DFN2DS-HX4F0-040DS940-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1474.7	1474.7	1474.7	1474.7	1474.7
2.5°	1481.3	1474.7	1459.9	1473.4	1470.6
5°	1474.7	1468.0	1450.6	1462.6	1458.7
7.5°	1462.6	1454.7	1436.0	1441.2	1434.6
10°	1446.6	1437.3	1410.6	1406.5	1398.7
12.5°	1426.7	1414.6	1378.5	1370.6	1355.8
15°	1402.6	1387.9	1342.5	1317.2	1303.9
17.5°	1374.6	1353.2	1297.1	1267.8	1246.4
20°	1342.5	1315.8	1249.1	1215.8	1186.4
22.5°	1307.9	1277.2	1199.7	1154.3	1134.4
25°	1273.2	1230.4	1142.3	1087.7	1067.5
27.5°	1231.9	1186.4	1089.0	1026.2	995.5
30°	1187.8	1136.9	1030.2	962.2	926.2
32.5°	1145.1	1083.6	974.2	894.1	860.7
35°	1097.1	1028.9	911.5	827.4	798.0
37.5°	1050.3	976.8	852.8	760.6	727.3
40°	1000.9	920.9	791.4	696.7	662.0
42.5°	950.2	864.8	730.0	631.2	597.9
45°	896.8	807.3	667.3	572.5	540.5
47.5°	846.2	751.4	607.3	512.5	483.1
50°	790.0	695.3	548.5	456.3	428.4
52.5°	735.3	635.2	492.5	404.3	379.0
55°	681.9	577.8	433.7	353.7	328.3
57.5°	627.3	520.5	381.7	306.9	285.6
60°	571.1	464.4	326.9	258.9	237.6
62.5°	516.6	409.8	280.2	216.2	205.6
65°	460.5	352.3	232.2	186.9	182.8
67.5°	407.1	298.9	186.9	164.1	160.1
70°	351.0	246.9	154.8	141.5	136.0
72.5°	297.7	198.8	129.4	118.8	116.1
75°	245.5	152.1	106.8	97.4	96.2
77.5°	193.6	108.0	84.1	78.8	76.0
80°	145.4	77.4	64.0	58.8	58.8
82.5°	101.4	52.1	44.1	41.3	41.3
85°	57.4	29.3	25.3	25.3	25.3
87.5°	21.4	10.6	10.6	9.4	9.4
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930270

CATALOG NUMBER: DFN2DS-HX4F0-040DS940-RLL

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	11.55	13.08	11.92	13.39	13.70	7.51	9.04	7.88	9.35	9.66
	3H	13.32	14.69	13.70	15.01	15.38	8.78	10.14	9.16	10.47	10.83
	4H	13.99	15.27	14.39	15.62	15.99	9.28	10.56	9.68	10.91	11.29
	6H	14.48	15.66	14.89	16.03	16.42	9.66	10.85	10.07	11.21	11.60
	8H	14.64	15.77	15.07	16.16	16.56	9.79	10.91	10.21	11.30	11.70
	12H	14.74	15.82	15.17	16.20	16.63	9.87	10.95	10.30	11.33	11.76
4H	2H	11.66	12.94	12.06	13.29	13.67	8.21	9.49	8.61	9.84	10.22
	3H	13.59	14.66	14.00	15.05	15.46	9.65	10.72	10.06	11.12	11.52
	4H	14.34	15.30	14.77	15.71	16.15	10.25	11.21	10.69	11.63	12.06
	6H	14.93	15.77	15.39	16.21	16.67	10.74	11.57	11.20	12.02	12.48
	8H	15.15	15.93	15.61	16.37	16.84	10.90	11.68	11.37	12.12	12.59
	12H	15.30	16.00	15.78	16.47	16.95	11.02	11.71	11.50	12.19	12.66
8H	4H	14.37	15.14	14.83	15.59	16.05	10.61	11.38	11.07	11.83	12.30
	6H	15.00	15.65	15.50	16.14	16.61	11.19	11.84	11.69	12.33	12.81
	8H	15.25	15.83	15.77	16.34	16.83	11.41	11.99	11.93	12.50	12.99
	12H	15.46	15.97	15.97	16.46	17.02	11.59	12.10	12.10	12.60	13.16
12H	4H	14.35	15.04	14.83	15.52	15.99	10.65	11.34	11.13	11.82	12.29
	6H	14.98	15.56	15.50	16.07	16.56	11.26	11.84	11.77	12.34	12.83
	8H	15.27	15.78	15.78	16.27	16.84	11.53	12.04	12.04	12.53	13.10