

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: P930280

Luminaire Tested: DFN2DS-HX4F0-050DS850-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930280
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-HX4F0-050DS850-RLL
Description: 4 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

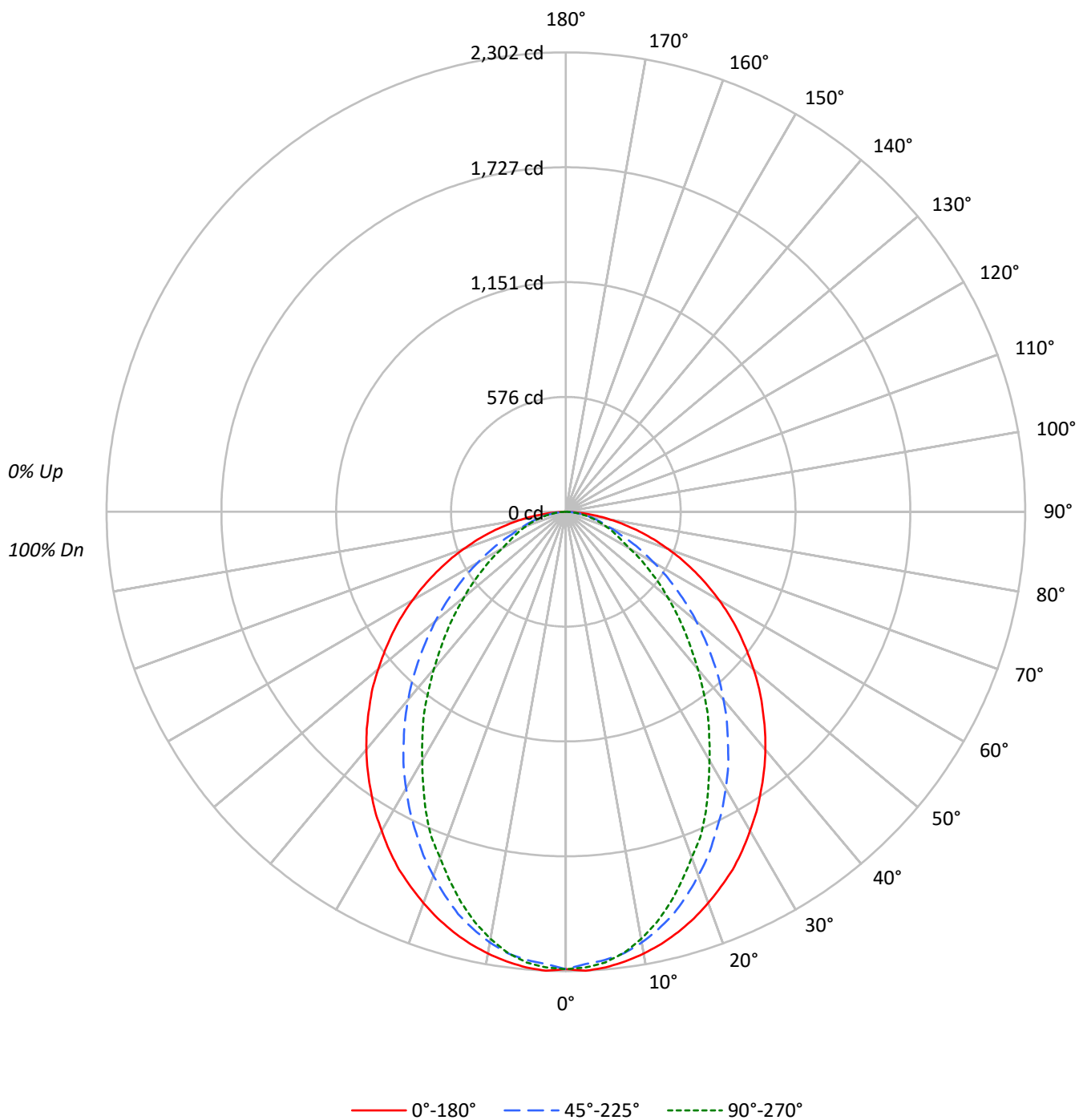
Lumens per Lamp: N/A
Luminaire Lumens: 4713.3 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 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: P930280

CATALOG NUMBER: DFN2DS-HX4F0-050DS850-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P930280

CATALOG NUMBER: DFN2DS-HX4F0-050DS850-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°	1704	1704	1704
5°	1711	1683	1692
10°	1697	1655	1641
15°	1678	1606	1560
20°	1651	1536	1459
25°	1623	1457	1361
30°	1585	1375	1236
35°	1548	1286	1126
40°	1510	1194	999
45°	1466	1090	883
50°	1420	986	770
55°	1374	874	662
60°	1320	755	549
65°	1259	635	500
70°	1186	523	460
75°	1096	477	429
80°	968	426	391
85°	761	336	336

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1466 cd/sqm

TEST NUMBER: P930280

CATALOG NUMBER: DFN2DS-HX4F0-050DS850-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.8	4.6
10°-20°	589.6	12.5
20°-30°	827.8	17.6
30°-40°	902.4	19.1
40°-50°	829.4	17.6
50°-60°	651.3	13.8
60°-70°	424.0	9.0
70°-80°	218.2	4.6
80°-90°	55.7	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°	1632.2	34.6
0°-40°	2534.6	53.8
0°-60°	4015.3	85.2
0°-90°	4713.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4713.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2292	2292	2292	2292	2292	
5°	2292	2281	2254	2273	2267	217
15°	2180	2157	2086	2047	2026	614
25°	1979	1912	1775	1690	1659	910
35°	1705	1599	1417	1286	1240	1067
45°	1394	1255	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	716	548	361	290	284	709
75°	382	236	166	151	149	404
85°	89	46	39	39	39	107
90°	0	0	0	0	0	

TEST NUMBER: P930280

CATALOG NUMBER: DFN2DS-HX4F0-050DS850-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.7	2291.7	2291.7	2291.7	2291.7
2.5°	2302.1	2291.7	2268.9	2289.8	2285.5
5°	2291.7	2281.4	2254.4	2273.0	2266.9
7.5°	2273.0	2260.7	2231.6	2239.8	2229.4
10°	2248.2	2233.6	2192.3	2185.9	2173.5
12.5°	2217.1	2198.5	2142.4	2130.1	2107.1
15°	2179.7	2156.9	2086.5	2047.1	2026.4
17.5°	2136.2	2103.0	2015.8	1970.2	1937.0
20°	2086.5	2044.9	1941.2	1889.5	1843.7
22.5°	2032.6	1984.8	1864.5	1794.0	1763.0
25°	1978.6	1912.1	1775.3	1690.3	1659.1
27.5°	1914.4	1843.7	1692.3	1594.9	1547.2
30°	1845.9	1767.0	1601.1	1495.4	1439.3
32.5°	1779.5	1684.0	1514.1	1389.6	1337.7
35°	1704.9	1599.1	1416.6	1285.9	1240.2
37.5°	1632.2	1518.1	1325.4	1182.1	1130.4
40°	1555.5	1431.2	1229.8	1082.6	1028.7
42.5°	1476.7	1344.0	1134.5	980.9	929.2
45°	1393.8	1254.7	1037.0	889.6	839.8
47.5°	1314.9	1167.8	943.8	796.4	750.8
50°	1227.9	1080.6	852.5	709.2	665.8
52.5°	1142.7	987.1	765.3	628.5	589.1
55°	1059.8	898.0	673.9	549.6	510.3
57.5°	974.8	808.9	593.2	477.1	443.8
60°	887.6	721.7	508.0	402.5	369.2
62.5°	802.7	636.8	435.5	336.0	319.5
65°	715.5	547.5	360.9	290.4	284.1
67.5°	632.6	464.6	290.4	255.1	248.9
70°	545.5	383.7	240.5	219.8	211.5
72.5°	462.6	309.0	201.2	184.6	180.4
75°	381.6	236.3	165.9	151.4	149.4
77.5°	300.8	167.9	130.8	122.3	118.1
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.6	81.0	68.4	64.2	64.2
85°	89.2	45.6	39.4	39.4	39.4
87.5°	33.3	16.5	16.5	14.5	14.5
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930280

CATALOG NUMBER: DFN2DS-HX4F0-050DS850-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	13.09	14.61	13.45	14.92	15.24	9.05	10.57	9.41	10.88	11.20
	3H	14.85	16.22	15.23	16.54	16.91	10.31	11.68	10.69	12.01	12.37
	4H	15.52	16.80	15.92	17.15	17.53	10.81	12.10	11.21	12.44	12.82
	6H	16.01	17.19	16.42	17.56	17.95	11.19	12.38	11.61	12.74	13.14
	8H	16.17	17.30	16.60	17.69	18.09	11.32	12.45	11.75	12.84	13.24
	12H	16.28	17.35	16.71	17.74	18.17	11.40	12.48	11.83	12.86	13.29
4H	2H	13.19	14.47	13.59	14.82	15.20	9.74	11.02	10.14	11.37	11.75
	3H	15.12	16.19	15.53	16.59	16.99	11.19	12.25	11.60	12.65	13.05
	4H	15.87	16.83	16.31	17.25	17.68	11.79	12.74	12.22	13.16	13.60
	6H	16.47	17.30	16.92	17.74	18.20	12.27	13.11	12.73	13.55	14.01
	8H	16.68	17.46	17.14	17.90	18.37	12.43	13.21	12.90	13.66	14.12
	12H	16.83	17.53	17.32	18.01	18.48	12.55	13.25	13.03	13.73	14.20
8H	4H	15.90	16.68	16.36	17.12	17.59	12.14	12.92	12.60	13.36	13.83
	6H	16.54	17.18	17.03	17.67	18.15	12.73	13.37	13.22	13.86	14.34
	8H	16.79	17.36	17.30	17.87	18.36	12.95	13.52	13.46	14.03	14.52
	12H	16.99	17.50	17.50	17.99	18.56	13.13	13.64	13.64	14.13	14.69
12H	4H	15.88	16.58	16.36	17.06	17.53	12.18	12.88	12.66	13.36	13.83
	6H	16.52	17.09	17.03	17.60	18.09	12.79	13.37	13.30	13.88	14.36
	8H	16.80	17.31	17.31	17.80	18.37	13.06	13.57	13.57	14.06	14.63