

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: P930255

Luminaire Tested: DFN2DS-HX4F0-040DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930255
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-HX4F0-040DS830-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

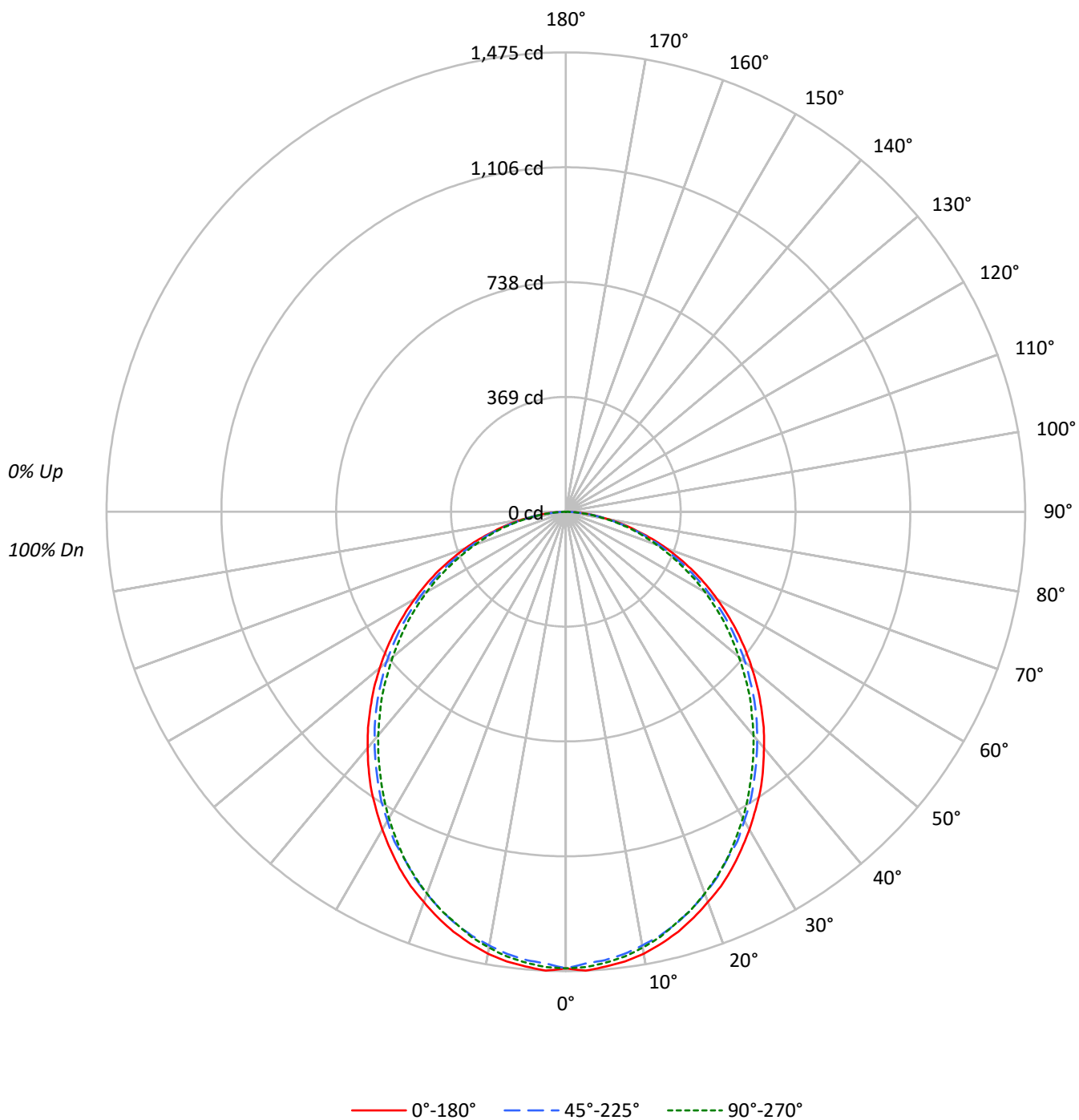
Lumens per Lamp: N/A
Luminaire Lumens: 3730.3 lumens
Efficiency: N/A
Efficacy: 97.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	1090	1090	1090
5°	1094	1079	1085
10°	1088	1068	1073
15°	1074	1054	1053
20°	1055	1033	1032
25°	1036	1007	1007
30°	1012	984	976
35°	989	956	942
40°	961	928	910
45°	933	900	878
50°	902	871	840
55°	870	837	806
60°	834	797	767
65°	796	757	722
70°	748	708	674
75°	680	652	636
80°	604	585	555
85°	492	469	421

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 933 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.0	3.7
10°-20°	388.3	10.4
20°-30°	570.6	15.3
30°-40°	662.7	17.8
40°-50°	661.9	17.7
50°-60°	577.1	15.5
60°-70°	426.6	11.4
70°-80°	241.4	6.5
80°-90°	63.7	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°	1096.8	29.4
0°-40°	1759.5	47.2
0°-60°	2998.6	80.4
0°-90°	3730.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3730.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1466	1461	1445	1456	1454	139
15°	1396	1387	1369	1375	1368	393
25°	1263	1252	1228	1231	1228	581
35°	1090	1076	1053	1045	1038	681
45°	887	877	856	840	835	684
55°	671	663	646	629	622	600
65°	453	444	430	417	410	447
75°	237	234	227	218	221	253
85°	58	56	55	51	49	68
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1466.1	1466.1	1466.1	1466.1	1466.1
2.5°	1474.7	1467.6	1452.1	1466.1	1463.5
5°	1466.1	1460.6	1445.0	1456.2	1453.6
7.5°	1456.2	1447.9	1432.3	1443.7	1440.9
10°	1440.9	1431.0	1414.1	1425.3	1421.1
12.5°	1419.6	1411.2	1394.3	1401.4	1398.5
15°	1395.7	1387.3	1368.9	1374.6	1367.6
17.5°	1366.1	1357.7	1339.3	1346.3	1339.3
20°	1333.6	1325.2	1305.5	1309.7	1304.2
22.5°	1301.3	1288.6	1270.2	1270.2	1267.4
25°	1263.1	1251.9	1228.0	1230.7	1228.0
27.5°	1220.8	1210.9	1192.8	1188.5	1181.6
30°	1178.6	1167.3	1146.2	1142.0	1136.3
32.5°	1133.5	1125.1	1102.5	1094.0	1088.3
35°	1089.8	1075.8	1053.2	1044.7	1037.6
37.5°	1040.4	1027.7	1005.1	995.3	988.3
40°	989.8	978.4	955.8	943.2	937.6
42.5°	940.4	929.0	906.6	892.4	884.0
45°	886.8	877.0	855.7	840.4	834.6
47.5°	834.6	824.7	802.2	786.7	778.3
50°	779.6	772.5	752.8	733.1	726.0
52.5°	726.0	716.2	697.9	682.4	672.5
55°	671.2	662.6	645.7	628.8	621.8
57.5°	616.1	609.1	590.6	573.8	568.1
60°	561.1	555.5	535.8	520.3	516.0
62.5°	507.5	497.7	483.6	469.5	463.8
65°	452.6	444.1	430.0	417.3	410.3
67.5°	396.2	389.0	376.5	366.6	361.0
70°	344.0	338.4	325.6	315.8	310.2
72.5°	290.5	284.8	277.8	267.9	263.7
75°	236.8	234.1	226.9	218.5	221.4
77.5°	188.9	183.2	180.4	176.2	172.0
80°	141.0	139.5	136.7	132.5	129.7
82.5°	95.9	95.9	94.6	88.8	88.8
85°	57.7	56.4	55.0	50.7	49.4
87.5°	25.4	22.6	19.8	15.5	14.0
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	11.58	13.19	11.95	13.51	13.82	11.14	12.75	11.50	13.06	13.38
	3H	13.33	14.79	13.71	15.11	15.47	12.84	14.30	13.22	14.62	14.98
	4H	13.98	15.35	14.38	15.70	16.07	13.48	14.85	13.88	15.20	15.58
	6H	14.45	15.72	14.86	16.08	16.47	13.95	15.22	14.36	15.58	15.97
	8H	14.59	15.80	15.02	16.19	16.59	14.09	15.30	14.51	15.69	16.09
	12H	14.68	15.84	15.11	16.22	16.65	14.17	15.33	14.60	15.71	16.14
4H	2H	12.14	13.51	12.54	13.86	14.24	11.79	13.16	12.19	13.51	13.88
	3H	14.12	15.26	14.53	15.66	16.06	13.71	14.86	14.12	15.26	15.66
	4H	14.89	15.93	15.33	16.34	16.78	14.47	15.51	14.90	15.92	16.36
	6H	15.49	16.40	15.95	16.84	17.29	15.06	15.96	15.51	16.40	16.86
	8H	15.68	16.53	16.14	16.97	17.43	15.24	16.09	15.70	16.53	17.00
	12H	15.81	16.57	16.29	17.05	17.52	15.36	16.12	15.84	16.60	17.07
8H	4H	15.17	16.01	15.63	16.46	16.92	14.79	15.64	15.25	16.08	16.55
	6H	15.88	16.59	16.38	17.07	17.55	15.50	16.20	15.99	16.69	17.17
	8H	16.14	16.77	16.65	17.28	17.76	15.75	16.38	16.26	16.89	17.37
	12H	16.34	16.90	16.85	17.39	17.95	15.93	16.49	16.43	16.98	17.54
12H	4H	15.19	15.95	15.67	16.43	16.90	14.83	15.59	15.31	16.07	16.53
	6H	15.93	16.56	16.44	17.07	17.55	15.56	16.19	16.07	16.70	17.18
	8H	16.24	16.80	16.75	17.29	17.85	15.86	16.42	16.37	16.91	17.47