

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: P930259

Luminaire Tested: DFN2DS-HX4F0-040DS840-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930259
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-HX4F0-040DS840-FLL
Description: 4 foot, Hexagon Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

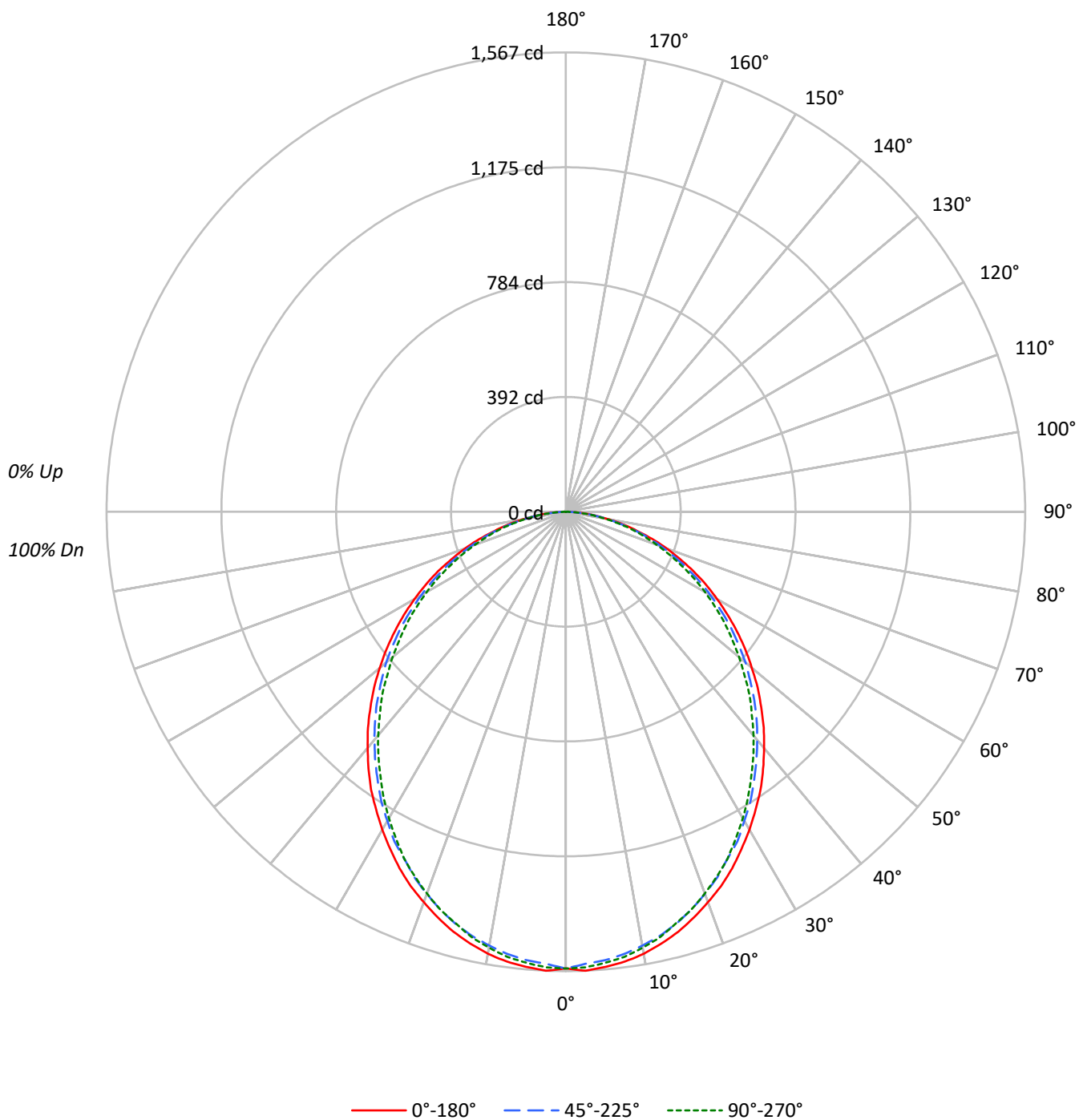
Lumens per Lamp: N/A
Luminaire Lumens: 3963.9 lumens
Efficiency: N/A
Efficacy: 104.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.09' x L: 3.54' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P930259

CATALOG NUMBER: DFN2DS-HX4F0-040DS840-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°	1158	1158	1158
5°	1163	1146	1153
10°	1156	1135	1140
15°	1142	1120	1119
20°	1121	1098	1097
25°	1101	1071	1071
30°	1075	1046	1037
35°	1051	1016	1001
40°	1021	986	967
45°	991	956	933
50°	958	925	892
55°	925	890	857
60°	887	847	815
65°	846	804	767
70°	795	752	717
75°	723	693	676
80°	641	622	590
85°	524	499	448

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 991 cd/sqm

TEST NUMBER: P930259

CATALOG NUMBER: DFN2DS-HX4F0-040DS840-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.6	3.7
10°-20°	412.6	10.4
20°-30°	606.3	15.3
30°-40°	704.2	17.8
40°-50°	703.3	17.7
50°-60°	613.3	15.5
60°-70°	453.4	11.4
70°-80°	256.5	6.5
80°-90°	67.7	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°	1165.5	29.4
0°-40°	1869.8	47.2
0°-60°	3186.4	80.4
0°-90°	3963.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3963.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1558	1558	1558	1558	1558	
5°	1558	1552	1536	1547	1545	148
15°	1483	1474	1455	1461	1453	418
25°	1342	1330	1305	1308	1305	618
35°	1158	1143	1119	1110	1103	723
45°	942	932	909	893	887	727
55°	713	704	686	668	661	638
65°	481	472	457	443	436	476
75°	252	249	241	232	235	269
85°	61	60	58	54	52	72
90°	0	0	0	0	0	

TEST NUMBER: P930259

CATALOG NUMBER: DFN2DS-HX4F0-040DS840-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1558.0	1558.0	1558.0	1558.0	1558.0
2.5°	1567.1	1559.6	1543.0	1558.0	1555.2
5°	1558.0	1552.1	1535.5	1547.4	1544.6
7.5°	1547.4	1538.5	1522.0	1534.1	1531.1
10°	1531.1	1520.6	1502.7	1514.6	1510.1
12.5°	1508.5	1499.6	1481.7	1489.2	1486.1
15°	1483.1	1474.2	1454.7	1460.7	1453.3
17.5°	1451.7	1442.7	1423.2	1430.6	1423.2
20°	1417.1	1408.2	1387.3	1391.7	1385.9
22.5°	1382.8	1369.3	1349.7	1349.7	1346.7
25°	1342.2	1330.3	1304.9	1307.8	1304.9
27.5°	1297.3	1286.8	1267.5	1263.0	1255.6
30°	1252.5	1240.4	1218.0	1213.5	1207.5
32.5°	1204.5	1195.6	1171.6	1162.6	1156.5
35°	1158.1	1143.1	1119.1	1110.1	1102.6
37.5°	1105.6	1092.1	1068.1	1057.7	1050.1
40°	1051.8	1039.6	1015.6	1002.3	996.3
42.5°	999.3	987.2	963.4	948.2	939.3
45°	942.3	931.9	909.3	893.0	886.9
47.5°	886.9	876.4	852.5	835.9	827.0
50°	828.4	820.9	800.0	779.0	771.5
52.5°	771.5	761.1	741.6	725.1	714.6
55°	713.2	704.1	686.2	668.2	660.8
57.5°	654.7	647.2	627.6	609.7	603.7
60°	596.2	590.3	569.4	552.9	548.3
62.5°	539.3	528.8	513.9	498.9	492.9
65°	481.0	471.9	457.0	443.4	436.0
67.5°	421.0	413.4	400.1	389.6	383.6
70°	365.6	359.6	346.0	335.5	329.6
72.5°	308.7	302.6	295.2	284.7	280.2
75°	251.7	248.7	241.1	232.2	235.2
77.5°	200.7	194.7	191.7	187.2	182.8
80°	149.8	148.2	145.2	140.8	137.8
82.5°	101.9	101.9	100.5	94.4	94.4
85°	61.4	60.0	58.5	53.9	52.5
87.5°	27.0	24.0	21.0	16.5	14.9
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P930259

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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	11.79	13.40	12.16	13.72	14.03	11.35	12.96	11.71	13.27	13.59
	3H	13.54	15.00	13.92	15.32	15.69	13.05	14.51	13.43	14.83	15.19
	4H	14.19	15.56	14.59	15.91	16.28	13.70	15.06	14.09	15.41	15.79
	6H	14.66	15.93	15.07	16.29	16.68	14.16	15.43	14.57	15.79	16.18
	8H	14.80	16.01	15.23	16.40	16.80	14.30	15.51	14.72	15.90	16.30
	12H	14.89	16.05	15.32	16.43	16.86	14.38	15.54	14.81	15.92	16.35
4H	2H	12.35	13.72	12.75	14.07	14.45	12.00	13.37	12.40	13.72	14.09
	3H	14.33	15.48	14.74	15.87	16.27	13.92	15.07	14.33	15.47	15.87
	4H	15.11	16.14	15.54	16.56	16.99	14.68	15.72	15.11	16.13	16.57
	6H	15.70	16.61	16.16	17.05	17.50	15.27	16.17	15.72	16.62	17.07
	8H	15.89	16.74	16.35	17.18	17.65	15.45	16.30	15.91	16.74	17.21
	12H	16.02	16.78	16.50	17.26	17.73	15.57	16.33	16.05	16.81	17.28
8H	4H	15.38	16.23	15.84	16.67	17.13	15.00	15.85	15.47	16.29	16.76
	6H	16.09	16.80	16.59	17.28	17.76	15.71	16.41	16.21	16.90	17.38
	8H	16.35	16.98	16.86	17.49	17.98	15.96	16.59	16.47	17.10	17.58
	12H	16.55	17.11	17.06	17.60	18.16	16.14	16.70	16.65	17.19	17.75
12H	4H	15.40	16.16	15.89	16.64	17.11	15.04	15.80	15.52	16.28	16.75
	6H	16.14	16.77	16.65	17.28	17.76	15.77	16.40	16.28	16.91	17.39
	8H	16.45	17.01	16.96	17.50	18.06	16.07	16.63	16.58	17.12	17.68