

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: P913353

Luminaire Tested: DFN2DIP-HX2F0-030D020US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913353
REPORT IS A COMBINATION OF REPORTS P900674 AND P897595
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-HX2F0-030D020US927-RLLONL
Description: 2 foot, Hexagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

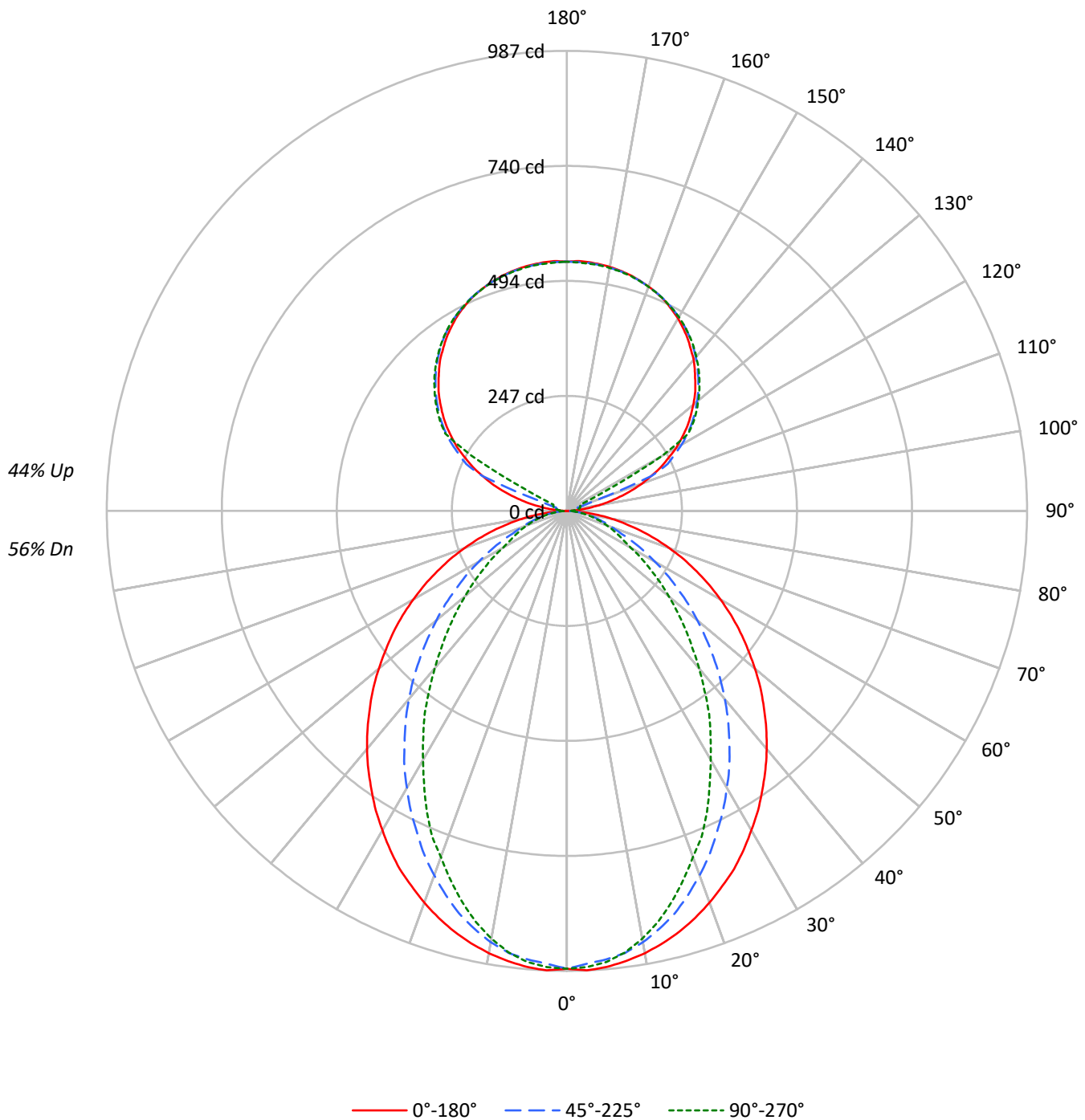
Lumens per Lamp: N/A
Luminaire Lumens: 3588.6 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 1.99' x L: 2.3' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 40.5
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9951
Total Harmonic Distortion (THDi): 0.07
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	30	10
RCR																	
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62
1	100	96	92	88	93	89	86	83	77	75	72	66	64	63	56	54	53
2	91	84	78	73	85	79	73	69	68	64	61	58	56	53	50	48	46
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	44	42	40
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	31
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	33	30	27
7	61	49	41	35	56	46	39	34	40	35	30	35	31	27	30	27	24
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2314	2314	2314
5°	2314	2272	2288
10°	2288	2222	2209
15°	2252	2143	2090
20°	2207	2037	1946
25°	2161	1919	1806
30°	2100	1798	1631
35°	2040	1669	1477
40°	1978	1536	1301
45°	1908	1389	1142
50°	1834	1241	987
55°	1757	1084	838
60°	1667	921	686
65°	1564	755	613
70°	1439	601	548
75°	1280	519	491
80°	1054	420	413
85°	690	260	290

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1908 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	2.6
10°-20°	252.7	7.0
20°-30°	354.8	9.9
30°-40°	386.8	10.8
40°-50°	355.5	9.9
50°-60°	279.2	7.8
60°-70°	181.7	5.1
70°-80°	93.5	2.6
80°-90°	24.8	0.7
90°-100°	17.6	0.5
100°-110°	65.7	1.8
110°-120°	174.3	4.9
120°-130°	289.1	8.1
130°-140°	307.1	8.6
140°-150°	285.4	8.0
150°-160°	229.5	6.4
160°-170°	147.9	4.1
170°-180°	50.9	1.4
0°-30°	699.6	19.5
0°-40°	1086.3	30.3
0°-60°	1720.9	48.0
0°-90°	2021.0	56.3
90°-120°	257.7	7.2
90°-150°	1139.3	31.7
90°-180°	1568.0	43.7
0°-180°	3588.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	0	5	8	10	10	3
95°	25	12	15	17	17	30
105°	118	129	24	28	29	126
115°	222	229	239	60	32	219
125°	315	320	327	330	331	281
135°	389	396	399	403	402	301
145°	452	451	458	460	458	282
155°	497	494	498	501	498	229
165°	524	522	523	526	523	148
175°	536	533	534	537	533	51
180°	535	535	535	535	535	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	0.4	4.7	7.7	9.7	10.5
92.5°	9.7	8.2	9.3	10.1	10.5
95°	25.1	12.4	15.1	17.0	16.6
97.5°	45.2	13.5	19.7	20.9	21.3
100°	68.5	15.4	22.0	25.1	25.9
102.5°	94.0	93.2	22.8	27.1	28.3
105°	117.6	129.2	23.6	27.8	29.4
107.5°	145.1	154.7	24.4	28.6	30.2
110°	171.4	179.5	67.7	29.1	30.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	196.1	203.1	196.5	29.8	31.0
115°	222.4	229.0	238.8	59.6	31.8
117.5°	245.3	253.0	259.6	204.3	102.9
120°	270.8	276.6	283.6	288.3	236.0
122.5°	292.5	298.7	306.4	308.7	309.2
125°	314.6	319.6	326.9	329.6	330.8
127.5°	334.7	340.1	345.9	349.7	350.1
130°	353.6	359.8	364.1	368.4	368.0
132.5°	373.0	378.0	382.2	385.7	385.4
135°	389.3	395.5	398.9	402.8	402.0
137.5°	406.2	410.9	414.8	418.7	417.5
140°	422.9	426.0	430.2	433.7	431.8
142.5°	436.8	439.6	444.6	447.7	445.7
145°	451.5	451.1	457.7	460.4	458.5
147.5°	464.3	463.1	469.7	471.6	470.1
150°	476.7	474.0	480.1	482.4	480.5
152.5°	487.1	484.0	489.8	492.2	489.4
155°	497.2	493.7	498.4	500.7	497.6
157.5°	505.3	502.2	505.7	508.4	505.3
160°	512.3	509.9	512.3	514.6	511.9
162.5°	518.4	516.1	518.1	520.8	517.3
165°	523.9	521.6	522.7	525.5	522.7
167.5°	528.1	525.8	527.0	529.7	526.2
170°	531.6	529.3	530.0	532.7	529.3
172.5°	533.9	531.6	532.4	535.1	531.6
175°	535.8	533.1	533.9	536.6	532.7
177.5°	536.6	533.9	534.3	537.0	533.5
180°	534.7	534.7	534.7	534.7	534.7

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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	10.50	11.38	11.40	12.30	13.48	6.48	7.36	7.39	8.29	9.47
	3H	12.15	12.94	13.07	13.88	15.08	7.65	8.45	8.57	9.38	10.58
	4H	12.75	13.49	13.68	14.43	15.65	8.10	8.84	9.03	9.78	10.99
	6H	13.15	13.84	14.10	14.78	16.01	8.40	9.09	9.35	10.03	11.26
	8H	13.27	13.92	14.22	14.88	16.11	8.49	9.14	9.44	10.10	11.33
	12H	13.32	13.94	14.28	14.90	16.15	8.53	9.15	9.48	10.10	11.35
4H	2H	10.52	11.26	11.46	12.20	13.42	7.07	7.81	8.01	8.75	9.97
	3H	12.32	12.94	13.27	13.91	15.14	8.40	9.02	9.35	9.99	11.22
	4H	13.00	13.56	13.96	14.53	15.78	8.94	9.50	9.90	10.46	11.72
	6H	13.49	13.98	14.46	14.96	16.22	9.34	9.83	10.31	10.81	12.07
	8H	13.65	14.11	14.63	15.09	16.35	9.46	9.92	10.44	10.89	12.16
	12H	13.74	14.15	14.73	15.14	16.41	9.52	9.93	10.51	10.92	12.20
8H	4H	12.97	13.42	13.94	14.40	15.67	9.21	9.66	10.18	10.64	11.91
	6H	13.51	13.88	14.51	14.90	16.17	9.70	10.08	10.70	11.10	12.36
	8H	13.71	14.04	14.71	15.05	16.33	9.88	10.21	10.89	11.22	12.50
	12H	13.83	14.12	14.84	15.12	16.45	9.99	10.28	11.00	11.28	12.61
12H	4H	12.92	13.33	13.91	14.32	15.60	9.21	9.62	10.20	10.61	11.89
	6H	13.48	13.81	14.49	14.82	16.10	9.75	10.08	10.75	11.09	12.37
	8H	13.69	13.98	14.70	14.98	16.31	9.94	10.23	10.95	11.24	12.57

END OF REPORT