

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: P916616

Luminaire Tested: DFN2DIP-PN3F0-040D030US930-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916616
REPORT IS A COMBINATION OF REPORTS P899513 AND P896399
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN3F0-040D030US930-FLLFLL
Description: 3 foot, Pentagon Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

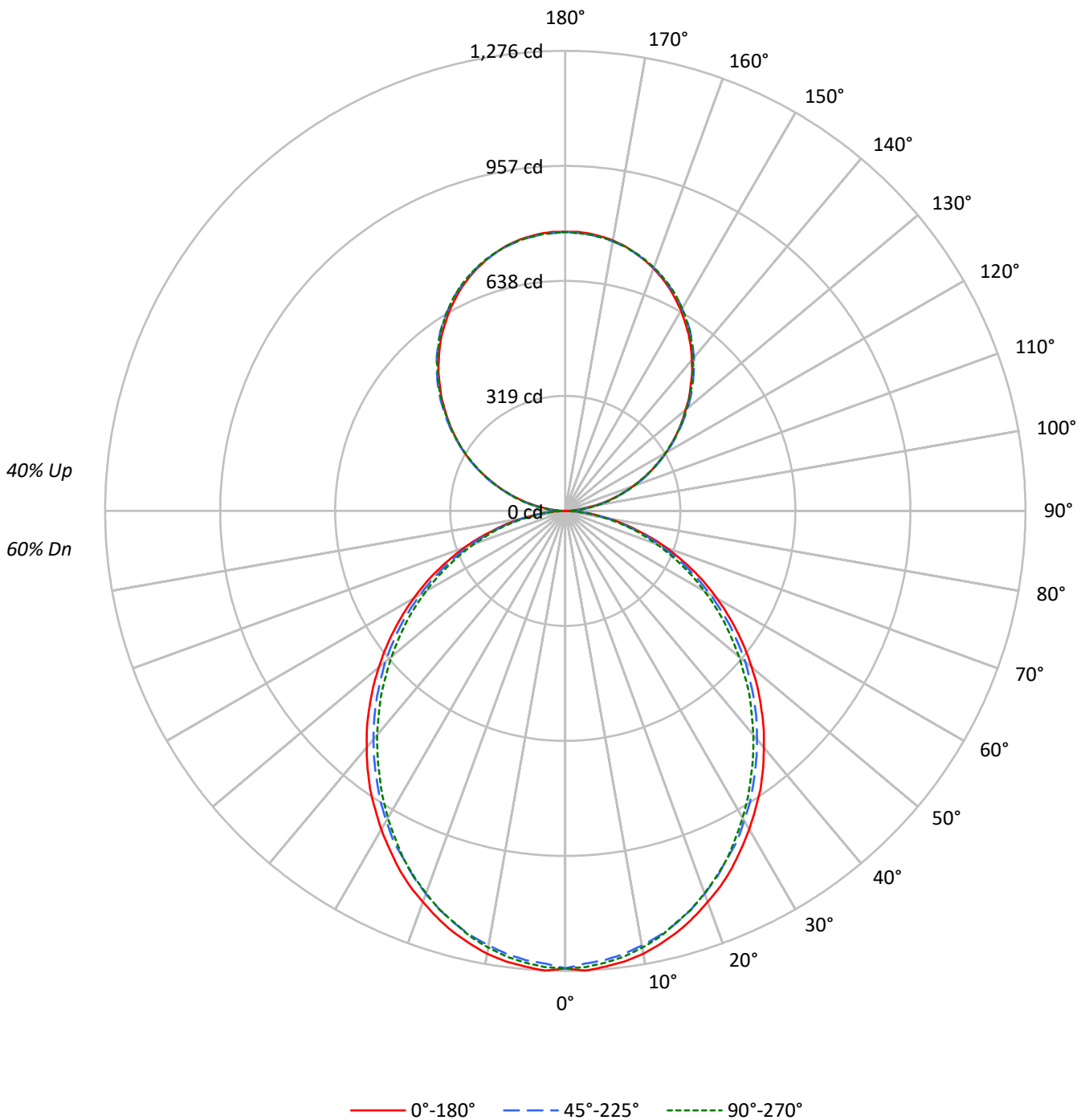
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5393.2 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.96' x L: 3.11' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 58
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
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			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60			
1	100	96	92	88	93	89	86	83	78	75	73	67	66	64	58	56	55	50			
2	91	84	77	72	85	78	73	68	68	64	61	59	56	53	51	48	46	42			
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	45	42	40	36			
4	76	65	57	51	71	61	54	48	54	48	43	47	42	39	40	37	34	31			
5	70	58	50	44	65	55	47	42	48	42	38	42	37	34	36	33	30	27			
6	64	52	44	38	60	49	42	36	43	37	33	38	33	29	33	29	26	23			
7	60	47	39	33	56	44	37	32	39	33	29	35	30	26	30	26	23	21			
8	55	43	35	30	52	40	33	28	36	30	26	32	27	23	28	24	21	19			
9	52	39	32	26	48	37	30	25	33	27	23	29	24	21	26	22	19	17			
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	24	20	17	15			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1483	1483	1483
5°	1485	1462	1472
10°	1472	1441	1451
15°	1449	1416	1420
20°	1419	1382	1387
25°	1389	1342	1350
30°	1352	1304	1302
35°	1316	1260	1252
40°	1273	1215	1204
45°	1229	1170	1155
50°	1182	1123	1099
55°	1132	1068	1046
60°	1075	1003	986
65°	1014	936	916
70°	935	854	840
75°	827	756	768
80°	695	630	634
85°	490	416	413

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1229 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	119.4	2.2
10°-20°	336.0	6.2
20°-30°	493.8	9.2
30°-40°	573.6	10.6
40°-50°	572.9	10.6
50°-60°	499.5	9.3
60°-70°	369.3	6.8
70°-80°	208.9	3.9
80°-90°	57.3	1.1
90°-100°	47.9	0.9
100°-110°	152.1	2.8
110°-120°	260.3	4.8
120°-130°	342.3	6.3
130°-140°	384.2	7.1
140°-150°	376.8	7.0
150°-160°	316.1	5.9
160°-170°	209.6	3.9
170°-180°	73.3	1.4
0°-30°	949.3	17.6
0°-40°	1522.9	28.2
0°-60°	2595.3	48.1
0°-90°	3230.8	59.9
90°-120°	460.2	8.5
90°-150°	1563.5	29.0
90°-180°	2162.0	40.1
0°-180°	5393.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1269	1269	1269	1269	1269	
5°	1269	1264	1251	1260	1258	120
15°	1208	1201	1185	1190	1184	340
25°	1093	1084	1063	1065	1063	503
35°	943	931	912	904	898	589
45°	768	759	741	727	722	592
55°	581	574	559	544	538	519
65°	392	384	372	361	355	387
75°	205	203	196	189	192	219
85°	50	49	48	44	43	56
90°	1	8	23	21	22	5
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1268.9	1268.9	1268.9	1268.9	1268.9
2.5°	1276.3	1270.2	1256.8	1268.9	1266.6
5°	1268.9	1264.1	1250.7	1260.4	1258.1
7.5°	1260.4	1253.1	1239.7	1249.5	1247.1
10°	1247.1	1238.5	1223.9	1233.6	1230.0
12.5°	1228.7	1221.4	1206.8	1212.9	1210.4
15°	1207.9	1200.7	1184.8	1189.7	1183.6
17.5°	1182.3	1175.1	1159.2	1165.2	1159.2
20°	1154.2	1147.0	1129.9	1133.5	1128.8
22.5°	1126.3	1115.2	1099.3	1099.3	1096.9
25°	1093.2	1083.5	1062.8	1065.2	1062.8
27.5°	1056.6	1048.1	1032.3	1028.7	1022.6
30°	1020.1	1010.3	992.1	988.4	983.5
32.5°	981.0	973.8	954.2	946.9	941.9
35°	943.2	931.1	911.5	904.2	898.1
37.5°	900.5	889.5	869.9	861.4	855.3
40°	856.6	846.8	827.2	816.4	811.5
42.5°	813.9	804.0	784.6	772.3	765.1
45°	767.5	759.0	740.6	727.3	722.4
47.5°	722.4	713.8	694.3	680.9	673.6
50°	674.7	668.6	651.6	634.5	628.4
52.5°	628.4	619.9	604.1	590.6	582.0
55°	580.9	573.5	558.9	544.2	538.2
57.5°	533.2	527.2	511.2	496.6	491.7
60°	485.6	480.8	463.7	450.3	446.6
62.5°	439.3	430.7	418.6	406.3	401.5
65°	391.8	384.3	372.2	361.2	355.1
67.5°	342.9	336.7	325.9	317.3	312.4
70°	297.7	292.9	281.8	273.3	268.5
72.5°	251.4	246.5	240.4	231.9	228.2
75°	205.0	202.6	196.4	189.1	191.6
77.5°	163.5	158.6	156.1	152.5	148.9
80°	122.1	120.7	118.3	114.7	112.3
82.5°	83.0	83.0	81.9	76.9	76.9
85°	50.0	48.8	47.6	43.9	42.7
87.5°	22.0	19.6	17.1	13.5	12.1
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6



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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	9.47	10.43	10.34	11.32	12.44	9.03	9.99	9.90	10.88	12.00
	3H	11.13	11.99	12.01	12.89	14.04	10.65	11.51	11.53	12.41	13.55
	4H	11.72	12.53	12.61	13.44	14.59	11.23	12.05	12.13	12.95	14.11
	6H	12.12	12.87	13.03	13.78	14.95	11.63	12.38	12.54	13.29	14.46
	8H	12.22	12.94	13.14	13.87	15.04	11.73	12.45	12.65	13.38	14.55
	12H	12.27	12.95	13.19	13.88	15.07	11.78	12.46	12.70	13.38	14.57
4H	2H	9.94	10.75	10.84	11.66	12.81	9.59	10.40	10.49	11.30	12.46
	3H	11.81	12.48	12.72	13.42	14.59	11.40	12.08	12.32	13.02	14.19
	4H	12.52	13.14	13.44	14.07	15.27	12.10	12.72	13.02	13.65	14.85
	6H	13.03	13.57	13.97	14.52	15.72	12.61	13.15	13.55	14.10	15.30
	8H	13.18	13.68	14.12	14.63	15.84	12.76	13.26	13.69	14.20	15.42
	12H	13.26	13.71	14.22	14.67	15.89	12.82	13.27	13.78	14.24	15.46
8H	4H	12.72	13.22	13.66	14.17	15.38	12.35	12.85	13.29	13.80	15.01
	6H	13.35	13.76	14.31	14.75	15.96	12.97	13.39	13.94	14.38	15.59
	8H	13.56	13.93	14.54	14.91	16.14	13.18	13.55	14.16	14.53	15.76
	12H	13.70	14.02	14.67	14.99	16.27	13.30	13.62	14.27	14.59	15.87
12H	4H	12.71	13.16	13.67	14.13	15.34	12.35	12.80	13.30	13.76	14.98
	6H	13.38	13.74	14.35	14.72	15.95	13.01	13.38	13.99	14.36	15.59
	8H	13.62	13.94	14.60	14.91	16.19	13.25	13.57	14.22	14.54	15.82